ISSUE TEN • JULY 1988 • £1.50

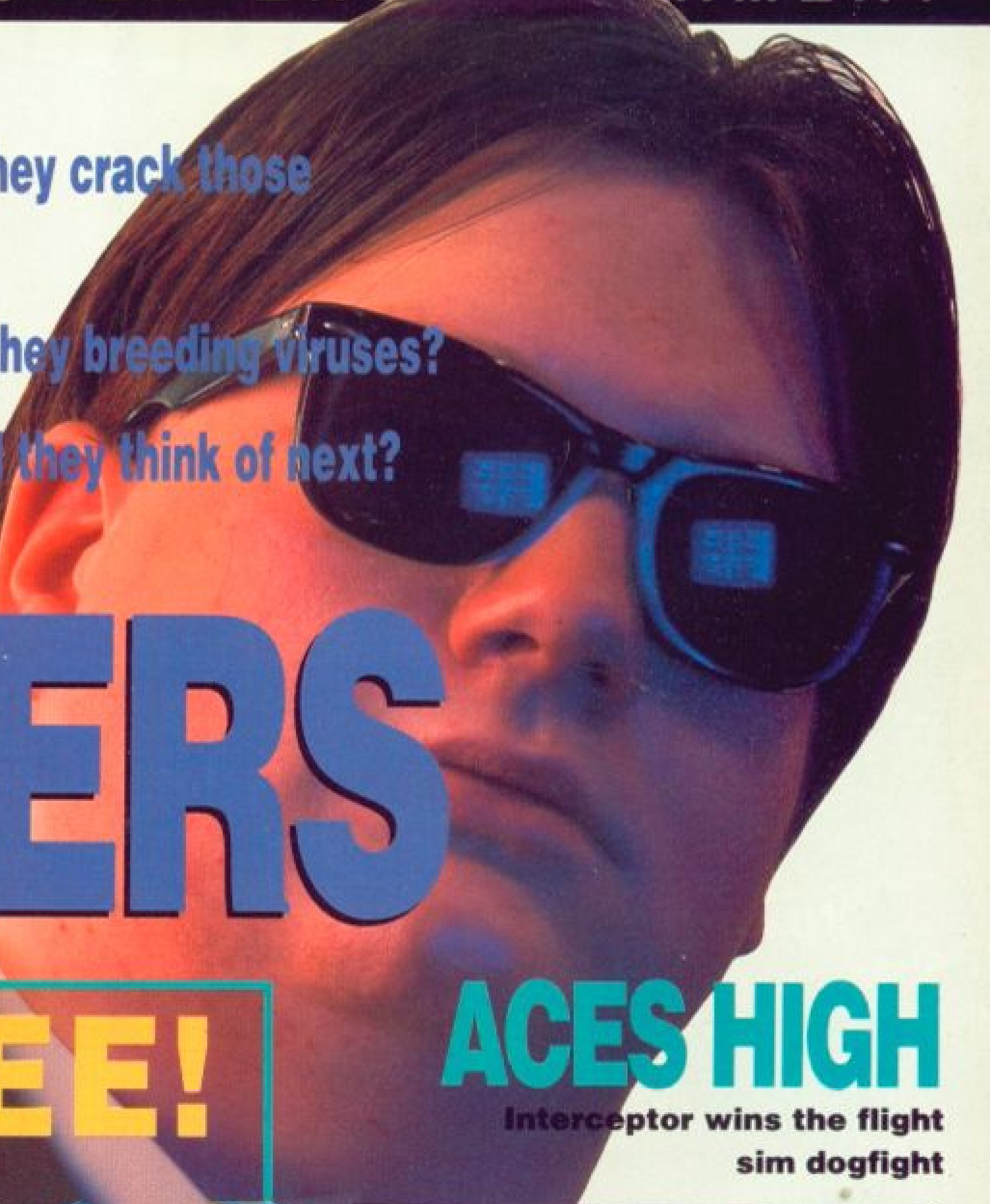
ACE

ADVANCED • COMPUTER • ENTERTAINMENT

Atari ST
Amiga
CBM 64/128
Spectrum
Amstrad
IBM + more

MUSCLE UP!

Sports sims to get you in shape for the Summer



HOW do they crack those games?

WHY are they breeding viruses?

WHAT will they think of next?

HACKERS

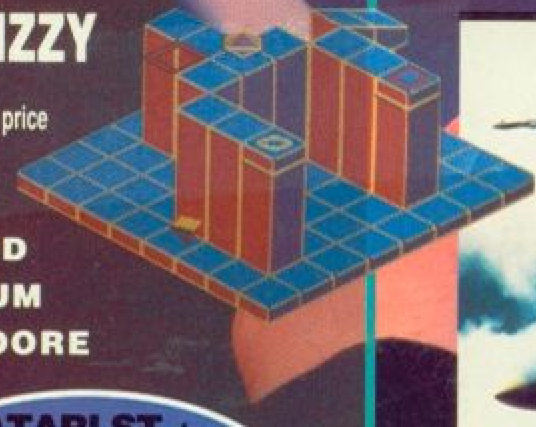
ACES HIGH

Interceptor wins the flight sim dogfight

FREE!

Spindizzy Cassette
(Not for export)

SPINDIZZY



The incredible full price Electric Dreams title complete on

AMSTRAD
SPECTRUM
COMMODORE

ATARI ST + AMIGA owners claim your FREE DISK see page 71

If your cassette is missing see page 36

Full game instructions on page 36

NEW MUSIC MICRO!

The year is 1987; Robin, an 11 year old boy with phenomenal psychic powers is in a trance. His mind has left his body and travelled through time, taking him to a post-holocaust Southampton ruled by Fascist forces — The System.

Everywhere is bare, scorched and desolate. He is totally alone!

The friends he left behind are powerless to help him as they stand over his inert body, watching transfixed as his fluorescent green eyes reveal like a TV screen the horror and devastation of his surroundings.

Will Robin survive?

Can he blow up the enemy generator, defeat The System, free the prisoners and return to the present?

He has just 24 hours to save the world!

NEW FEATURES

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- Intelligent interactive characters
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MINDFIGHTER — THE FIRST OF A NEW GENERATION OF AC

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A flight into a nightmare–
MINDFIGHTER

Mindfighter storyline and concept © 1987 Strange Obsessions. Mindfighter computer game © 1988 Activision Inc. Marketed and distributed by Activision UK Ltd. Atari screens shown.

ABSTRACT CONCEPTS

OF ACTN-PACKED ADVENTURE GAMES

ACE

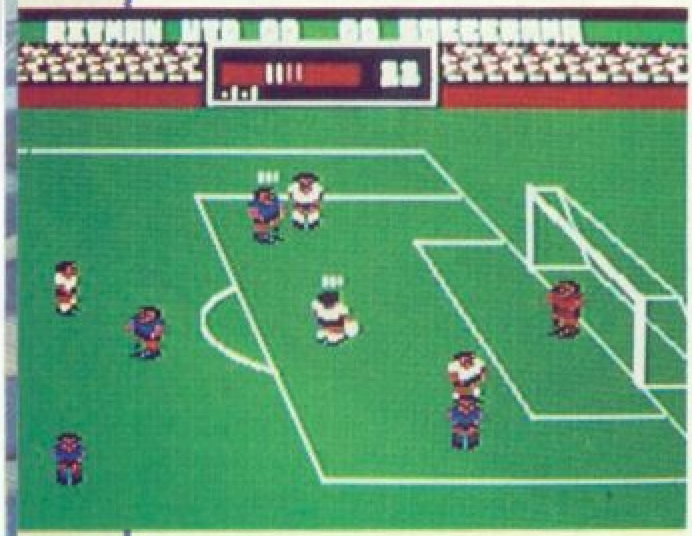
SPECIALS

31 License to Thrill

Shoot the film, **write** the book, **win** the race, **floor** the champ, get a **hole in one**, and then **make a million** from the computer game. Pete Connor exposes the lucrative world of **games licensing**...

77 Muscle Up!

ACE **pumps iron** with a definitive round-up of over 15 specially selected sports simulations – grab that joystick and **sweat it out**.



Ocean's *Matchday II* – just one of over 15 recommended sports sims.

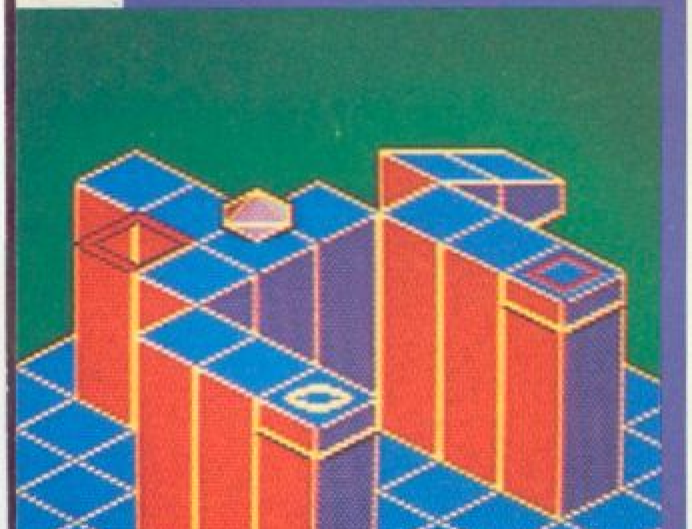
72 Hack Attack

Illegal entry, piracy, bombs, viruses...Andy Wilton plugs into the hackers' network and discovers the **hideous truth** about **computer abuse**. No wonder these people **end up in court**...

SPINDIZZY

This month's incredible free cover cassette!

What can we say? It's one of the most playable games ever, it's on the cover, and it's completely free. Check out page 36 and be amazed.



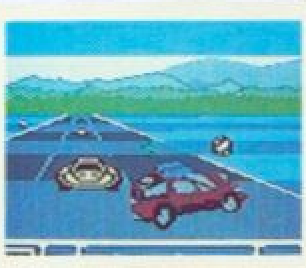
INTERFACE

7 News

Get your ear to the ground and catch up on **what's been done** and **what's been said** in the world of computer entertainment...plus special reports from **Poona, India** and **Aldermaston, Bucks**.

18 Previews

ACE's **hotline to the future** gives you a sneak preview of US Gold's *Roadblasters* plus a host of other games you **can't buy today**, but will be **playing tomorrow.**



US Gold's *Roadblasters* – check out the traffic forecast on page 18.

103 Letters

Obliterator **obliterated**, the Commodore 64 **defended**, and a **strange note** from Mr Juszappin.

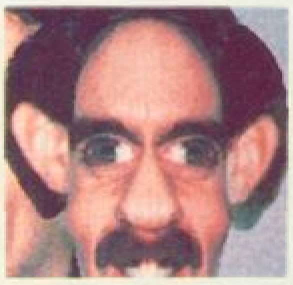
130 The Blitter End

Positively the **last page** of the magazine. Are you an ACE card prizewinner?

SIGHT...

21 Photon Torpedoes

Photon Paint for the Amiga and *Spectrum 512* for the ST – two of the **most powerful** paint programs to date reviewed by **graphics expert** Brian Larkman.



...AND SOUND

90 New Music Micro

Rumours have been circulating about a new **Amstrad music micro**. ACE visits Flair Technology in Cambridge and witnesses a **machine in the making** – but will it be an Amstrad?

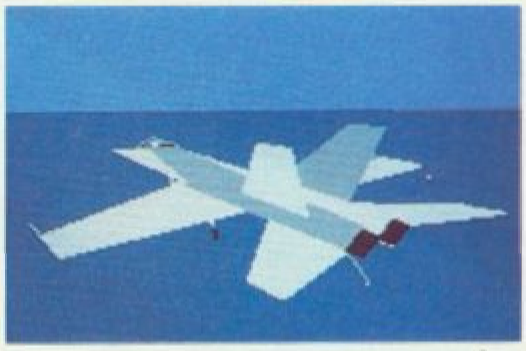
92 Midi Panel of Experts

Mark Jenkins makes more music for **muddled MIDI users.**

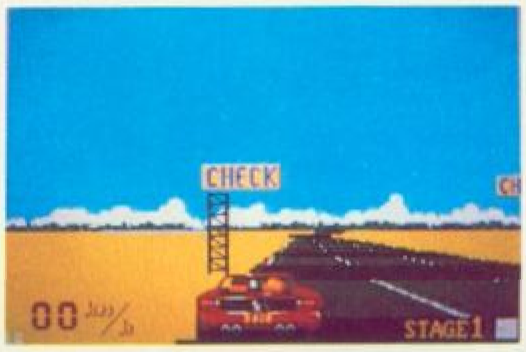
GAMEPLAY

41 Screen Test

Is Electronic Arts' *Interceptor* the **best combat flight sim ever**? Check out its staggering 934 ACE rating and then join the ACE team as we **lob bombs** in *Leatherneck*, **burn rubber** in ST *Outrun*, **shoot the moon** in *Earthlight*...and then **make a film** about it all *Starring Charlie Chaplin*.



Page 44: Storm the skies in EA's superlative *Interceptor*.



Page 64: You better believe it: the ST version of *Outrun* finally does justice to the great original.

26 Arcade Ace

Cor, **shake a leg**..and an arm..and just about everything else. Pete Connor **lies back** and takes it **like a man** in the new Super X Simulator.

83 Play-By-Mail

Achieve **universal domination**. Cost: 18p.

85 Tricks 'n' Tactics

Inspired **hocus-pokery** to help you crack *Arkanoid II, ATF, Magnetron, Buggy Boy* and many others. ACE lays bare the **intimate secrets** of today's top-selling games and sets your high-scores **soaring.**

97 Adventures

Pick up your phone, dial a number, visit other worlds, meet real people, and **MUG them**. ACE presents the **definitive guide to Multi-User Games** including *MUD, Gods,* and *Trash*.

BUY LINES

12 The ACE Card

Every month we **splash out** on hundreds of £'s worth of prizes. Grab your ACE card, check out the winning numbers, and **get soaked**.

14 Competition

Ferrari Formula One, Test Drive, Deluxe Paint, Interceptor – just some of the recent **blockbusters** from **Electronic Arts**. ACE gives you the unique opportunity to win EVERY Electronic Arts release for a whole year, a prize worth at least £500 to each winner and a lot more in **street cred**.

94 Special Offers

OK, you don't **have** to buy this stuff, you know. After all, we're only offering some of the **best games available**, with **hi-speed delivery** AND up to **£4.00 off** a single title. So just close your eyes, turn the page, and let **everybody else** grab the **best mail-order bargains** around.

93 Subscription

What?? A **stack** of thrilling US Gold games – half-price!!! Plus the satisfying plonk of ACE dropping through your letterbox **every month**?? Turn to page 93 and make your **wildest dreams** come true...

ACE PINK PAGES

107 Buyer's Guide

Just how complete *is* your collection? Over fifty **ACE recommended games** complete with mini-reviews and price details so you can buy with confidence and get the games you **really want to play**. And if you need a **new computer** to play them on, check out our **hardware upgrade guide**.

124 Random Access

You've **read the magazine**, now **solve the puzzles** and **win a prize**.

127 Readers' Pages

That means **you.** All your secret desires **laid bare** in our **small ads**, plus help for **stranded adventurers** in the **ACE Helpline**.

THE ACE CARD

Win an Atari ST!

Turn to page 12 for details of your chance to win one of two Atari STs we're giving away – and check The Blitter End to see if you've won an Amiga or any of the staggering 24 software prizes we offered last month.

ARE YOU A WEIRDO?

Of course you are. Everybody who plays computer games is a weirdo. You're one of those people who actually enjoys that mindless rubbish, aren't you? Shooting aliens...all that hideous racket...waste of money...I expect you probably pulled the wings off flies when you were little and watched TV ten hours a day. What a moron!!

Well, that's what a large proportion of the population still seem to think. Here at ACE we get sick and tired of concealing our true identities at cocktail parties, pretending to be accountants or ad executives, while at the same time we're secretly conducting a slow-motion mental replay of the last ship down in *Xenon*...

'Yes, thank you Mrs Codwalloper-Smythe, the salmon mousse was **delicious**...*Dammit! a quick swerve to the left round that fuel dump might have saved me...must try that one out next time*...Oh yes, and how **is** little Jimmy?...*just wait till I get him in my sights*...Computers???!! Good gracious no, **horrible** things, never touch them...*because I'm too busy gripping the joystick, codface – get back to the canapes before I unleash a smart bomb and*...Of **course**! I would just **love** to hear Jemima play Auld Lang Syne on the harmonium...'

...and so on and so on. You know how it is...

But it needn't be like that. Soon even the Codwalloper-Smythes will succumb. Guess which machine the software houses are currently getting all worked up about – the PC, that's what. Millions have been sold and now even PC owners are getting fed up with spreadsheets and loading up *Elite*, or *Hitchhikers' Guide*...

Of course, the Codwallopers have probably got a PC in their drawing room. It may even have a modem. You might have a modem too. You could log on and...

...smart bombs away!

Future Publishing Ltd
4 Queen Street
BATH BA1 1EJ
Tel 0225 446034
Fax 0225 446019
Telecom Gold 84:TXT152
Prestel/Micronet 045 874 011

Co-editors Peter Connor Steve Cooke
Reviews Editor Andy Wilton
Production Editor Rod Lawton
Staff Writer Andy Smith
Art Editor Trevor Gilham
Art Team Angela Neal Sally Meddings
Advertisement Manager Jonathan Beales
Advertising Sales Executive Jennie Evans
Publisher Chris Anderson

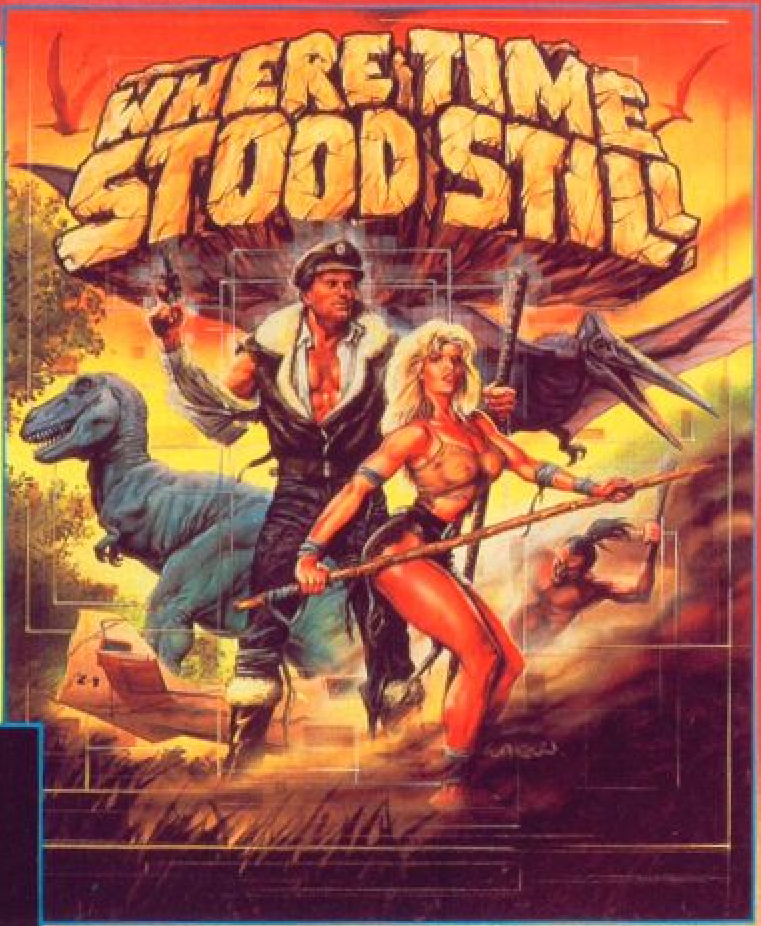
SUBSCRIPTIONS Avon Direct Mail, PO Box 1, Portishead, Bristol BF20 9EG, 0272 842487 • **SPECIAL OFFERS** (Christine Stacey) **The Old Barn, Somerton, Somerset, TA11 7PY**, 0458 74011 • **COLOUR ORIGINATION** Wessex Reproduction, 325a Wells Road, Bristol BS4 0QL • **DISTRIBUTION** SM Distribution, 16/18 Trinity Gardens, London SW9 8DX, 01-274 8611/5 • **PRINTING** Chase Web Offset, Plymouth • © **FUTURE PUBLISHING LTD 1988** • No part of this publication may be reproduced in any form without our permission.

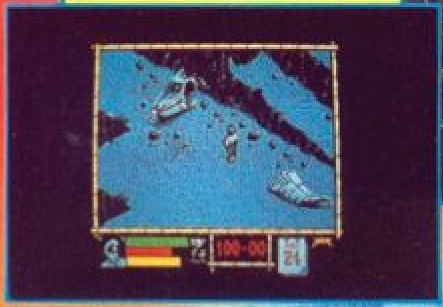
ATARI ST

EXPLORE TH

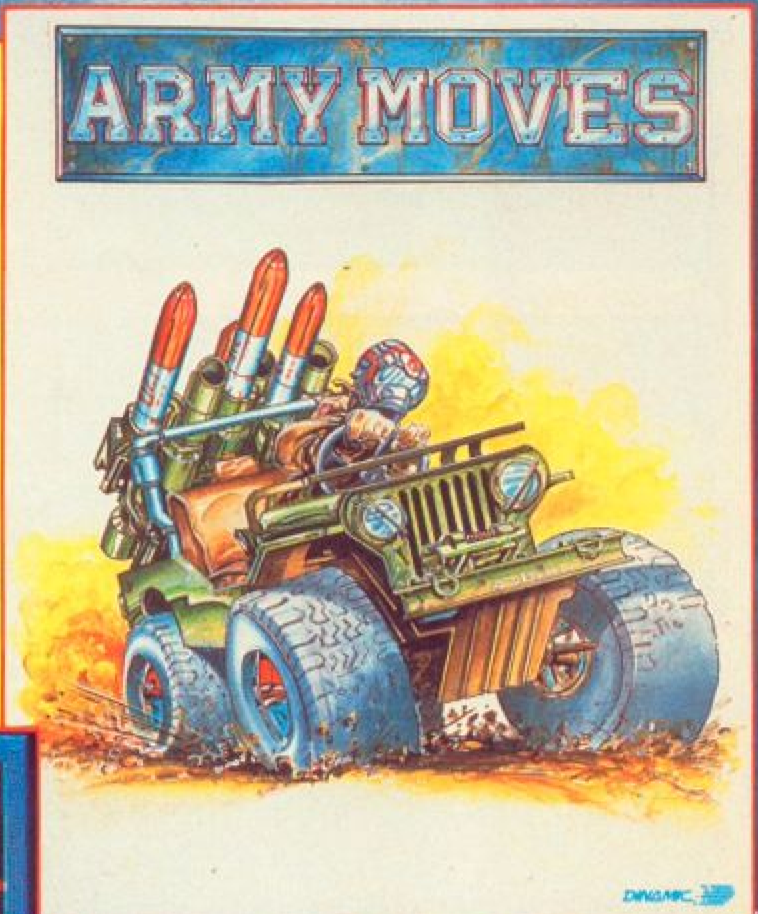
OF T

Your plane has ditched on a mountainous plateau somewhere in deepest Tibet. You and your companions are alive but recovery from the impact is short-lived – a large shape is moving towards you, as it gets closer you rub your eyes in disbelief; a Dinosaur! – where are you...and when? Now you learn to survive in a world untouched by modern life – a world frozen in time. Stunning graphics and startling action in this thrilling innovative game.





You are one of the Elite – a handpicked, crack trooper in battle against a formidable enemy. You'll need all your skill to take advantage of every situation, stamina to keep on going where others would fail and courage to face the ceaseless bombardment by enemy troops, helicopters and artillery and if you survive Army Moves you'll have some great tales to tell!



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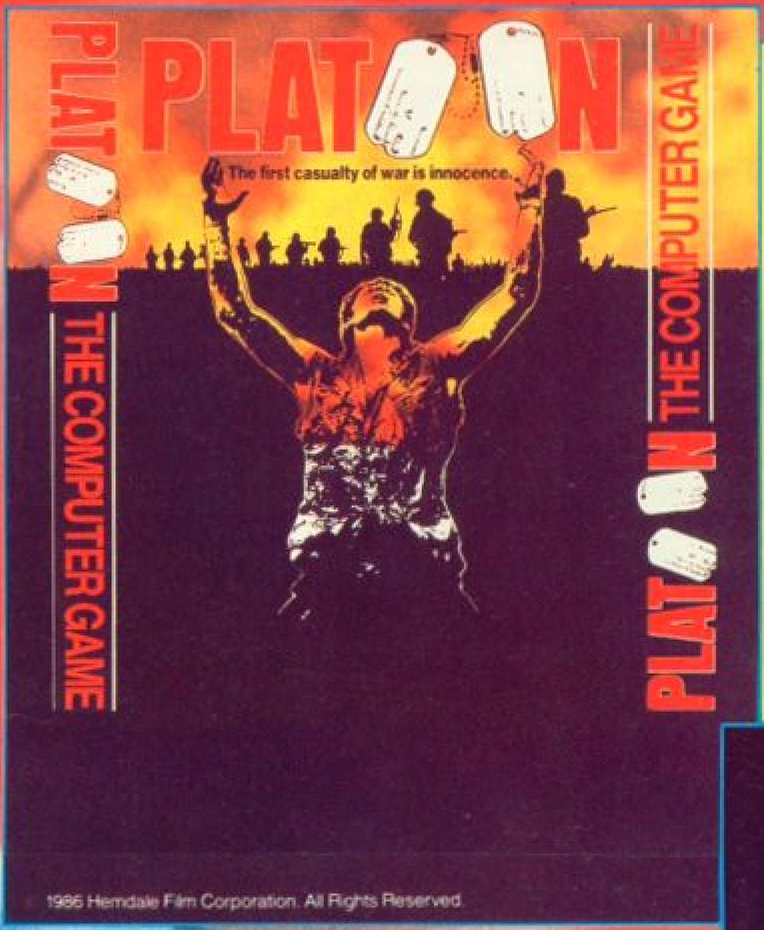
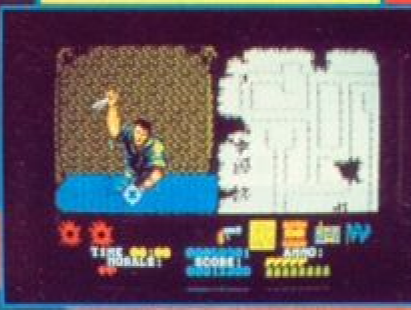

PLATOON
The first casualty of war is innocence.
PLATOON THE COMPUTER GAME
PLATOON THE COMPUTER GAME
1986 Hemdale Film Corporation. All Rights Reserved.

The Award winning film by Oliver Stone has been stunningly transcribed to the software entertainment medium creating a Blockbuster Computer Game. Hailed as the "Best Film Tie-in to date" – the program has received brilliant reviews on all formats. Special boxed pack containing a FREE film poster, game picture and audio cassette of Smokey Robinson's classic song "Tracks of my Tears"



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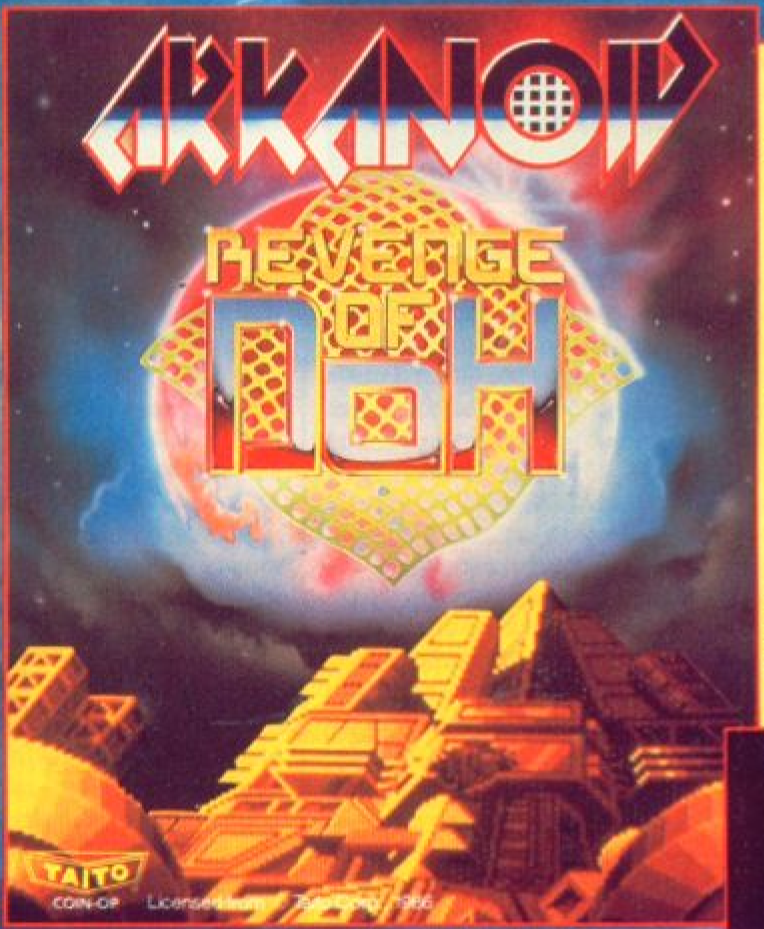
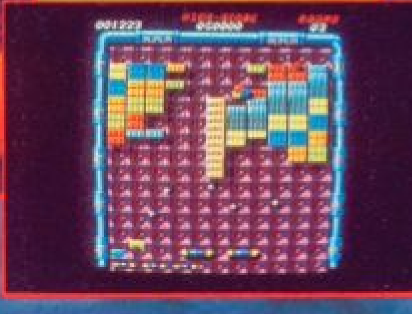

ARKANOID
REVENGE OF DOH
TAITO COIN-OP
Licensed from Taito Corp. 1986

Eons have passed... yet despite apparent annihilation in the origina ARKANOID game; Dimension-controlling force "DOH" has come back to life, and occupying the huge space-craft ZARG, has entered our Universe. ARKANOID type space-fighter MIXTEC runs through long forgotten computer data until it finds the answer to this threat... "VAUS 2" is launched and speeds towards the threatening alien presence, before it can extract its revenge... "The Revenge of Doh"



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MUSIC MICRO, PLEASE

The industry has, as usual, been awash with rumours about new machines from Amstrad. Following our suggestion that the company might release a games console, industry commentator Guy Kewney recently reported that Alan Sugar's next venture would be a Spectrum +4 with musical capabilities.

As usual, there's a lot of confused misinformation behind all this. Amstrad are quite adamant that they 'have nothing scheduled at the moment' – but then that doesn't really mean anything. However, ACE can reveal at least part of the truth behind the rumours: there IS a musical micro in the making, but it won't necessarily be Amstrad's – check out page 90 for the full story...

Meanwhile, the Amstrad rumours continue: 'They've got two releases coming up,' declares Code Masters' Bruce Everiss, 'one pitched just above the current Spectrum, and one just below...'. Other magazines have joined in the cry, speculating that the Spectrum +4 will be a 512K machine with a high-speed Z80, ST type graphics...built-in washing machine...etc...etc. Personally, we reckon the reality of Flair's computer detailed later in this issue is a lot more interesting than industry vapourware, but there's no doubt that the smoke's certainly swirling around the Amstrad offices – watch this space for news of the fire.

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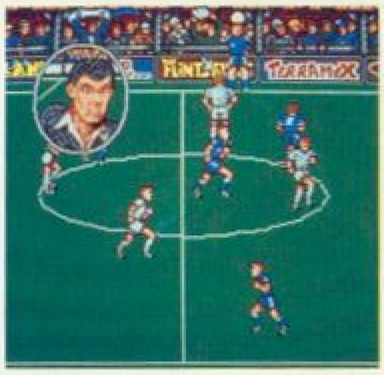
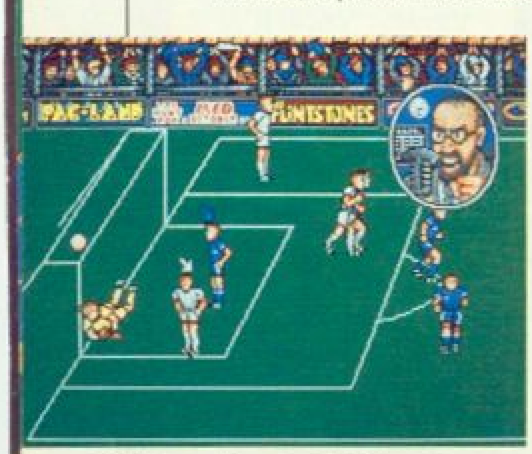
THE BIG MATCH



If you're going to produce a soccer game then a launch at the same time as the European Championships kick off seems like a good time to do it. Even better if – in the tradition of Glen Hoddle, Gary Lineker, Peter Shilton, Bryan Robson and Michel Platini – you can get a soccer star to endorse the product.

Grandslam have got both. They're bringing us *Peter Beardsley's European Football* around the 10th of June – just when things get going over in West Germany.

The game is essentially an arcade-style soccer game, but with a 'tournament' front end allowing you to play other European teams up to the finals of the competition.



The arcade part is in the usual mode of control passing to the player nearest the ball. A Grandslam spokesman commented that the game should feature 'some of the nicest animation' you will have seen.

The game should appear first on the Atari ST, then the Amiga, at around £20. A C64 version will follow at the end of June (£9.95 cassette, £14.95 disk) with Amstrad, Spectrum and MSX appearing towards late summer. Peter Beardsley is expected to make a number of personal appearances to support the game's launch.

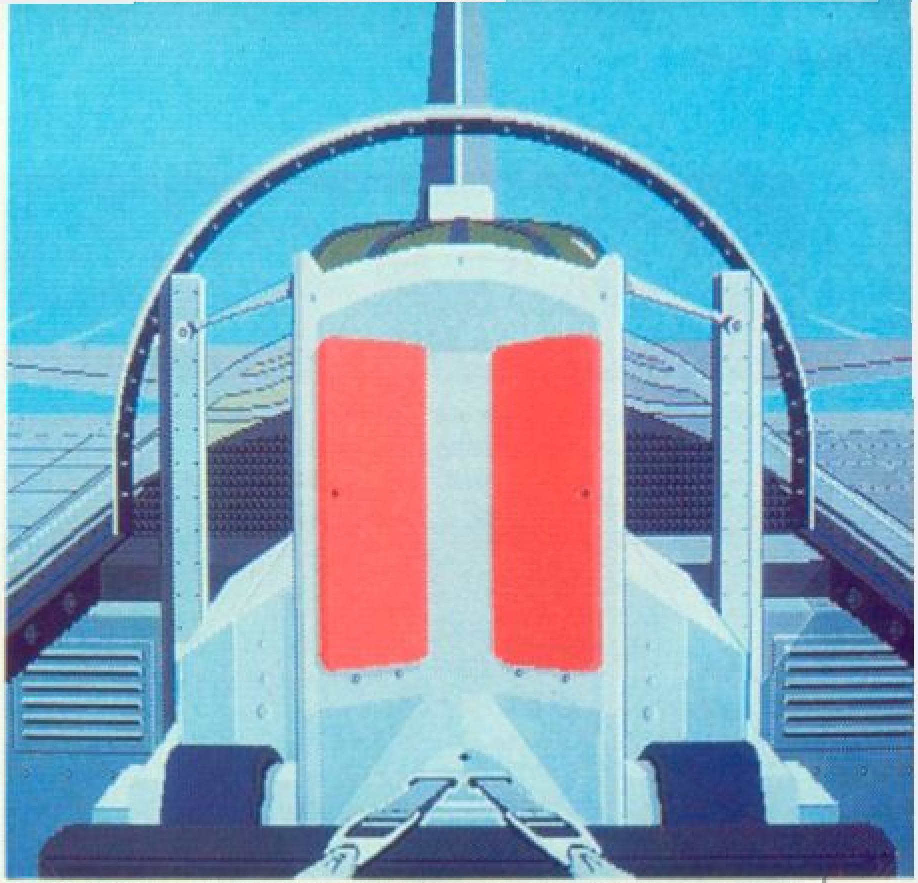
PIRANHA SINKS

Latest software house to sink is Piranha, the label set up by book publishers Macmillan to dip the corporate toe in the games software market.

While the name conjures up images of aggressive marketing, Piranha never really cut the mustard in the world of games. Hits were few and far between, with the result that the Macmillan board pulled the plug on the project.

Piranha's demise means that the virtually completed games of *Halo Jones*, *Roy of the Rovers* and an ST version of *Flunky* are up for grabs. There's no news as yet on any potential purchasers.

PC POWER



Falcon (Spectrum Holobyte) in its still unfinished EGA version – and it's looking good already!

There's an unexploded bomb in the computer entertainment industry: thousands of people in the UK have bought high power machines that can handle 16-colour game screens as fast as an ST – and they're not using them for games!

What are these popular, high-performance micros? They're EGA PCs, IBM compatibles made by clone manufacturers like Amstrad and Opus. You can buy them in the High Street, monitor and all, for much the same price as an ST or Amiga system, they can run a larger range of software than either and they'd make great games machines if they got the chance – so why don't they?

The problem lies in how people see PC clones. ACE itself called them 'boring' back in issue 3, and there's an element of truth to the charge. Games like *Falcon*, *Diplomacy* and a great version of *Driller* have shown us that the machines can be really exciting, but the fact is that PC buyers in this country are still typically after wordprocessor, database and spreadsheet power.

Across the Atlantic things are very different. Cheap PCs are seen as general purpose home machines over there, and most of them will end up running games at one time or another. It makes sense really: PCs have the largest serious software base of any machine in the world, and modern clones have the power to run some heavy duty games too. As all-rounders they've still got as much to offer as any other machine out there.

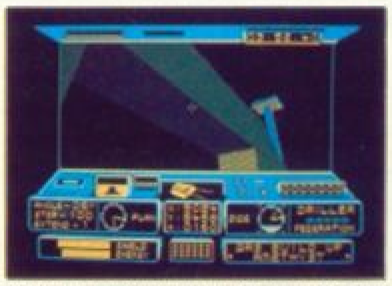
In the UK, gamers tend to be a lot more particular: getting them to buy PCs instead of comparably priced Amigas or STs would be all but impossible. That's why software houses here are increasingly trying to draw out the gamesplaying streak in existing PC owners. 'An awful lot of PC users don't play games or even get to hear about them' said Mirrorsoft's Cathy Campos, 'but we are making inroads.' Perhaps the answer is to produce games that fit in with other ways of using the PC. 'Pop-up' games like Mirrorsoft's *Tetris* can be held in memory at the same time as a serious program like a spreadsheet or wordprocessor, ready to spring into life at the touch of a key when the user gets bored. Other games need more of the computer's attention but can still co-exist with serious pop-up programs like *Sidekick* or *PC Outline*.

VIDEO CARDS

There are several different graphics standards for the PC, but the main one for games is still the aged Color Graphics Adapter (CGA) standard. This offers a 320 x 200 pixel four-colour screen very similar to the four-colour mode on an Amstrad CPC. Though an 8MHz 8086 like the one in the Amstrad PC1512 can throw graphics round a CGA screen at a fair old speed – PC *Elite*'s a great example of this – the display simply can't compete with the 16 colours of an ST screen or the 32 that many Amiga games offer.

The CGA's days are numbered now, mind you. Increasingly, cheap PCs like Amstrad's PC1640 are fitted with the Enhanced Graphics Adapter (EGA) as standard, and the EGA's an altogether more impressive beast. It can offer screens with resolutions of up to 640 x 350 pixels, in 16 colours from a range of 64. The ST and Amiga may have more colours than this to choose from, but the ST can only manage that kind of resolution in mono – and the Amiga needs a special monitor to display more than 200 lines on the screen without flickering.

That's all good news for graphics buffs – a PC1640's a serious rival for the Amiga as an art machine if it's detail rather than colour that you're after – but game-playing fans will be more interested in seeing the speed the PC can move its graphics around at. On the face of it, the ST and Amiga with their Motorola 68000 processors should convincingly trounce the PC here – but things aren't always what they seem.



Driller (Incentive) shows the kind of solid 3D graphics the EGA display can produce.

PROCESSOR SPEEDS

The 8086 is not the fastest chip in the world, and at comparable clock speeds the 68000 will generally show it a clean pair of heels. The compatible 80286 and 80386 can offer substantially higher performance, but only at a price beyond most people's pockets. In any case they've got competition of their own in the 68000's faster cousins, the 68020 and 68030.

The 68000 family's speed comes from the fact that they were designed from the outset to handle 32 bits (that's four bytes) of data at once. The 68000 itself is a bit of a poor relation here: it has to break 32-bit lumps of information down into two 16-bit halves. This compromise still works out faster than the 8086's pure 16-bit approach when there's a lot of data to be moved, and screen-handling's just that sort of situation.

A typical EGA game screen – 320 x 200 pixels in 16 colours – takes up just as much RAM as an equivalent ST or Amiga screen, and the size of a screen tends to determine how much work the processor needs to do. The ST and Amiga can really get moving on those wide-open spaces of screen memory – but what hope does the PC have?

EGA ADVANTAGES

Strangely enough, the design of the PC's video hardware gives it a fighting chance against the newer machines. The 68000's only advantage is that it can access four bytes of screen RAM in one go (more or less) – but thanks to the clever design of the EGA board, the 8086 can do this too!

When it comes to moving blocks of the screen around, drawing lines or filling large areas of colour, an 8MHz EGA PC like the 1640 normally works out at least as fast as the ST or Amiga. It's slower on some conventional gaming tasks – notably on sprite-handling – but when it comes to the headline-making solid 3D graphics we're seeing so much more of these days, the 1640 can certainly hold its own.

THE SOFTWARE GAP

The PC's weak sound performance is certainly a black mark against it, but with the amount of graphic power available the PC's real handicap as a games machine isn't hardware at all: it's software. Just as the ST or Amiga would do fine as business machines if they had a better software base, so an EGA PC clone would make an excellent choice for gamers if only more software used the graphics standard fully. There's already the talent out there to write those games, if only the industry could woo the UK users into playing around a bit more. ●

MESSY DIVORCE

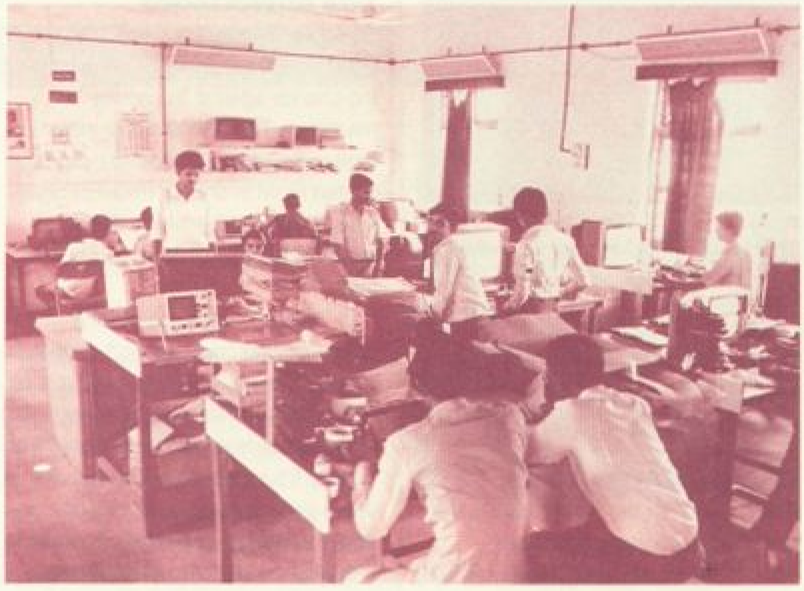
Following our report last month that the marriage between CRL and EA was on the rocks, news has broken that divorce has taken place – and a very acrimonious one too.

CRL are alleging that EA owe them a lot of money, under the terms of the distribution agreement signed a year ago. EA are countering with the claim that CRL's games just weren't of the 'high industry standard' stipulated.

Writs and counter-writs are now flying as CRL look for alternative means of distributing their games.

HORACE LIVES ON...

The Maharashtra Industrial Development Compound near Poona. One of the buildings in the background supplies the whole of India with Spectrum+ machines – the rickshaw driver in the foreground would need to scrimp and save for years to pay for one. Below: inside the Decibell building. The factory has the capacity to manufacture about 40 machines a day, but import duty of up to 250% on parts makes the machines expensive – about £250 each.



Some parts of the world are just a teensy-weensy bit behind the rest when it comes to computer entertainment. ACE recently paid a visit to a country where Horace is still skiing down the icy slopes and Micromega's (remember them?) *Full Throttle* is currently top of the charts.

The country's India, and for the last year or so a small company called Decibell Electronics have been churning out Spectrums for the local population of 800 million people. Unfortunately the statistics of real life soon whittle down the size of the market: 98% of the population earn less than £25 a week and 73% wouldn't be able to read messages on screen even if they came across a computer in the first place.

This hasn't discouraged Decibell or distributors Computer Point. Top of the charts are *Full Throttle, Chequered. Flag, Psion's Flight Simulator*, and....*Galaxians.* Games cost around £2 each – i.e. a week's salary for someone on the poverty line. Almost all the games are expertly pirated – even the distributors seemed embarrassingly unaware as to who the original publishers were of the games they sold.

Meanwhile, business is booming. 'We've just sent ten machines to Bombay,' announced manufacturer Mr Bhoir triumphantly, 'demand is going through the roof!'

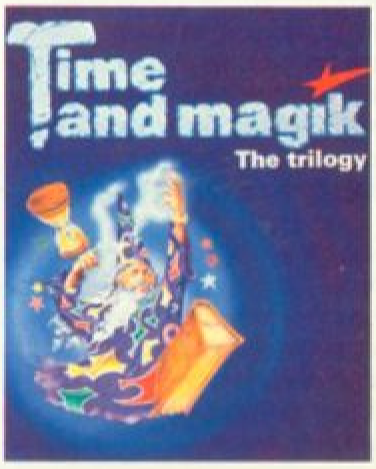
TRIPLE FORMAT DISCOVERED

First came dual format ST/Amiga disks, now Level 9 have gone one further and developed a disk loading system that enables the same disk to be used simultaneously for Spectrum +3, Amstrad CPC, and Amstrad PCW machines. Furthermore, unlike other systems, the new format uses only one side of the disk, with each computer sharing data. Machine-specific code for each micro is kept in special 'partitions' on the same side while the other side of the disk holds compressed graphics data.

Even more intriguing is the fact that those people purchasing the new system will be able to use it to convert earlier Level 9 disk-based software published by Rainbird onto different machines. It's hard to see, however, just how useful being able to change an Amstrad CPC disk to Spectrum +3 format will be for anyone other than the (very) small minority of users who have both machines.

'It's all made possible by the fact that the three machines use the same disk hardware, so the actual tracks on the disk are in the same position for each format. Otherwise you'd have serious problems...' explained Pete Austin of Level 9.

Apart from space-saving for retailers, the real boon of the new system is going to be in better software availability for users. Previously some shops would have been unwilling to give up shelf space for copies of PCW versions of adventure software.



Time & Magik from Level 9/Mandarin – same disk for PCW/Amstrad/Spectrum +3 owners.

Gamesters who used to pickle their conkers in vinegar, bake them in kilns, and then fill them with molten lead in order to conker all opponents will doubtless be taken by a new project underway at Origin Systems.

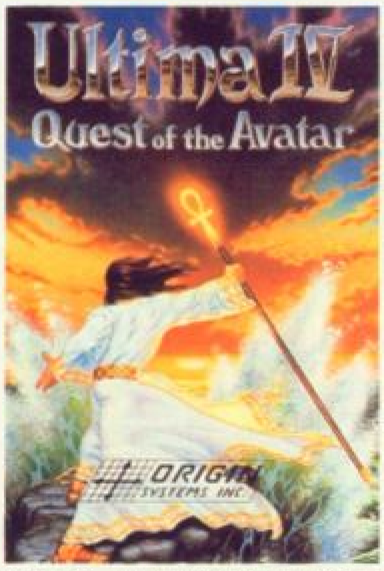
Codenamed *Tank Battle*, the program allows the player to program his own tank using a special, easy-to-use set of commands. Once you've pickled it, as it were, you send it into battle with the computer and see who wins. After the battle you can then tweak the design or – if

MINE'S A 500ER...

you were severely trounced – start again.

So far, so good – but what really makes the package sound interesting is the fact that the data for your tank designs can be stored on disk and circulated amongst other players. In the States they're even setting up a big central computer system that players can log onto and go tank-bustin' with their hottest design.

Origen hope the game will be available later this year. Watch this space for more details. Meanwhile, the long-awaited *Ultima V*, latest in the popular *Ultima* role-playing series, has been still further delayed. The Pilgrim tells us he hopes to be able to preview it next month...



Ultima IV – now available for the ST and PC, but *Ultima V* (due out last Christmas) is still 'on its way...'.

ACE ON THE ROAD...

The Interceptor empire

Interceptor are one of those companies who've been around a real long time – remember such jolly titles as *Trolley Wally* and *Arabian Nights*? – but who we don't really hear a lot of in these days of 16-bit mega-games. ACE took to the M4 to find out what they are up to now.

At the moment the public probably knows Interceptor best for its budget Players range – *Joe Blade* reached number 1 and stayed in the charts for quite some time. But what you notice when you actually go to the Interceptor HQ is that they're much more than a software company.

There's a tape and disk duplication plant, a tape case manufacturing facility, a printers, an art studio. There's even a removal and transport firm. The chances are that even if you've never bought an Interceptor game in your life, you will have bought a tape they duplicated, or at least a tape inside a box that they made. Perhaps you even moved house in one of their trucks.

Despite these multifarious interests, Interceptor are still very much involved in software production. The in-house team is working on *Joe Blade 2* and other budget titles, while the Pandora label has several 16-bit releases up its sleeve.

The in-house programming team with some of their current projects.

SNIPPETS...

Up and coming titles for your micro

TRIGGER HAPPY

CRL
C64 £9.95cs £14.95dk

Rumour has it that aliens are causing havoc in the outer stratosphere, so it's down to you as Flight Commander McCoy (the real one perhaps?) to climb in your Advanced Flight Capsule and go give 'em hell. Use your three multi-directional guns well and you might survive the 32 levels of gun turrets, mazes, traps and destroyers. Look out for it soon.

STAR FLEET

Interstel/Electronic Arts

Amiga	**£24.95dk**
Atari ST	**£24.95dk**
IBM PC	**£24.95dk**
C64	**£14.95dk**

The big E.A. are geared up for the imminent release of the first of Interstel's *Fleet* series. The player takes command of one of 36 galactic heavy cruisers and has to protect the outer regions of the Alliance from invading Krellan and Zaldron warships. Be prepared to rescue Starbases, capture and tow enemy vessels, lay minefields, search for intruders and repair damaged systems in this intensive strategy cum role-playing game.

LASER SQUAD

Target Games

Spectrum	**£9.95cs**
C64	**£9.95cs**

Laser Squad heralds a new wargaming system involving a variety of weapons and unit types. The basic one or two-player game comes complete with three scenarios and Target Games plan to release future scenarios that can be loaded into the main programme. Each scenario is effectively a completely separate game with different units, maps and objectives. The Spectrum version will be here first with the Commodore version following in the Autumn.

STALINGRAD

CCS
Spectrum £9.95cs

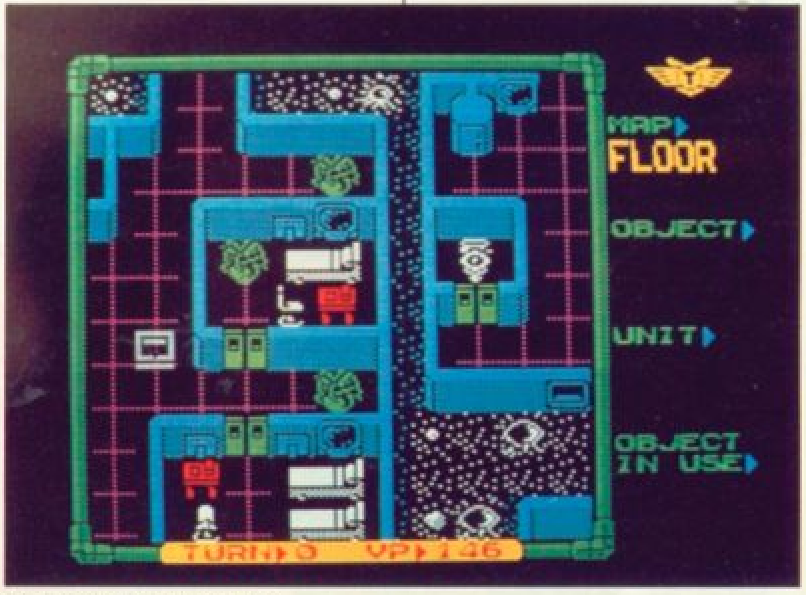
The latest solo wargame (available now) by Ken Wright takes the player back to the Eastern front of 1942. Ivan's slogging it out with Jerry (that's you) across a varied terrain the size of seven screens. There's plenty of scope for strategic and tactical planning and three difficulty levels so you should find the game puts up a good fight whether you're a novice or an expert.

THE SENTINEL

Firebird
Amiga £19.99dk

This is one of the all-time greats and has been available on most formats for a long time. Now Amiga owners won't have to wait much longer to be able play this classic game – but first check the ACE updates pages in a future issue before you splash out as not all versions of a game are equally good, and though the signs are the Amiga version's gonna be red-hot, it just might turn out to be a turkey.

The Sentinel



Scenario 2 – Moonbase Assault

ATARI SC1224
ATARI SC1224
ATARI

See page 130 for a list of the winners so far.

WIN AN ATARI ST!

Has your ACE card come up trumps this month? There are 25 great prizes.

For everyone who received a free ACE card on the cover of the April Issue, here's another great opportunity to win prizes.

Using the same program as last time, just type in the 25 new 4-letter codes printed on this page. If the program converts one of them into your personal number, you're a winner!

If you missed the April ACE, you can still get hold of an ACE card – see the box for details.

LOOK AT THESE PRIZES!

ONE 1st PRIZE: *ATARI ST + COLOUR MONITOR*
The winning code: BXGE

FOUR 2nd PRIZES: *£50 of software – chosen from the ACE Special Offer pages*
The winning codes: CTXJ • BXSG • ABDC • CSUM

TEN 3rd PRIZES: *£25 of software – chosen from the ACE Special Offer pages.*
The winning codes: CBBE • EMVA • BILJ • AGOV • BXSP • BIGR • ELYG • CBMG • ALFK • EFMG

TEN 4th PRIZES: *A year's free subscription to ACE magazine*
The winning codes: BOUN • DPRL • ACNI • CODK • CBQW • DDDD • EFZN • BLDX • EOFH • DYOS

HOW TO CLAIM A PRIZE

If you are one of the winners, you may claim your prize simply by posting us your ACE card together with a note saying which prize you are claiming (and from which issue of ACE).

If your prize is for software, list carefully the software you would like from the selection printed in the ACE Reader Offer pages (94-95).

Assuming your claim is valid, we will forward your prize and return your card within 28 days (probably much sooner).

Post to: ACE CARD PRIZE CLAIM, 4 Queen Street,
Bath BA1 1EJ ***Closing date for claims July 12th, 1988***

HOW TO OBTAIN AN ACE CARD

If you missed the April issue of ACE, you may obtain an ACE card free of charge by sending us a stamped self-addressed envelope together with a signed statement saying that neither you nor anyone else in your household already owns an ACE card. Apply to:

ACE CARD REQUEST, 4 Queen St. Bath BA1 1EJ
(This offer valid while stocks last).

THE DECODER PROGRAM

This short program listing will DECODE the 4-letter codes printed below next to the prizes. It turns each code into a five-digit number such as the one printed on your ACE card. All you have to do is type-in the program using the instructions for your computer printed below.

Then RUN the program. It will ask you to input each of the prize codes in turn and will then reveal on screen the winning numbers. If your number comes up, YOU CAN IMMEDIATELY CLAIM YOUR PRIZE!

If you are unable to get the program to work, a list of the winning numbers, correctly decoded, may be obtained by sending a stamped addressed envelope to:

ACE July winners list, 4 Queen Street, Bath BA1 1EJ

C64, CPC, ST, AMIGA version

```
10 FOR A=1 TO 25:INPUT "Code";B$
20 B=0:FOR C=1 TO 4:B=B•26
30 D=ASC(MID$(B$,C,1))
40 IF D>90 THEN D=D-32
50 B=B+D-65:NEXT C:PRINT "Winning
Number is";B:NEXT A
```

SPECTRUM version

```
10 FOR A=1 TO 25:INPUT "Code";B$
20 LET B=0:FOR C=1 TO 4:LET B=B•26
30 LET D=CODE B$(C TO)
40 IF D>90 THEN LET D=D-32
50 LET B=B+D-65:NEXT C:PRINT "Winning
Number is";B:NEXT A
```

TYPING IN THE PROGRAM

SPECTRUM

48K: Power on, and type the Spectrum listing in as shown, pressing ENTER at the end of each line. To get the word CODE in line 30, hold down caps shift and symbol shift keys together and press the letter I key. When you've typed all five lines in correctly, press R (for RUN) followed by ENTER. Now type in the codes one at a time, pressing ENTER after each one: the program will stop after you've typed in all 25 codes.

128K: Select 128K BASIC mode from the start-up menu and type in the Spectrum listing as shown, hitting ENTER at the end of each line. Type RUN, hit the ENTER key again and type the codes in as for the 48K Spectrum above.

C64/128

Type the listing in as shown, hitting the RETURN key at the end of each line. Type RUN (Don't use the RUN/STOP key), hit RETURN and then type the codes in one after the other.

AMSTRAD CPC

Type the listing in as shown, hitting the RETURN key (6128) or the larger of the two ENTER keys (464 or 664) at the end of each line. Type RUN and hit RETURN or the large ENTER key again - don't use CONTROL and the small ENTER key here - and type the codes in one after the other.

ATARI ST

Put the LANGUAGE disk in the drive and switch the ST on. Double-click first on the drive A icon and then on the BASIC.PRG icon to boot Basic. Type EDIT and press the RETURN key. Now type the listing in, hitting RETURN after each line, and press the F10 key when you've typed all five lines in. Now type RUN, press RETURN again, and type the codes in one at a time.

AMIGA

Switch on, put your 'Workbench' disk into the drive and wait for the desktop to appear. Now put your 'Amiga Extras' disk in the drive, double-click on the EXTRAS icon and then double-click on the AMIGA BASIC icon. Type the listing in as shown, hitting RETURN after each line, and then click on the BASIC (rather than the LISTING) window. Type RUN, hit RETURN and then type the codes in one at a time.

OTHER MACHINES

The 'C64, CPC etc' listing is standard MicroSoft Basic, so it ought to work on most micros. If you can't get it to work on yours, write to us for a list of winners — details of this are printed above.

RULES

1.This promotion is open to everyone with the exception of employees of Future Publishing Ltd and anyone involved in the distribution or retailing of Advanced Computer Entertainment magazine.
2.Ownership of the ACE card is limited to one per household.
3.Each four-letter code printed in the magazine corresponds to a winning 5-digit number on one of the ACE cards.
4.The codes must be correctly decoded using the program printed each month in this magazine.
5.Claims for prizes must be received by first post on the closing date at the latest. The value of any unclaimed prizes will be carried forward to future issues.
6.If, due to a production error, more than one person claims a single prize, the publishers reserve the right to divide the prize between the claimants.
7.In the event of any dispute, the decision of the publishers is final.

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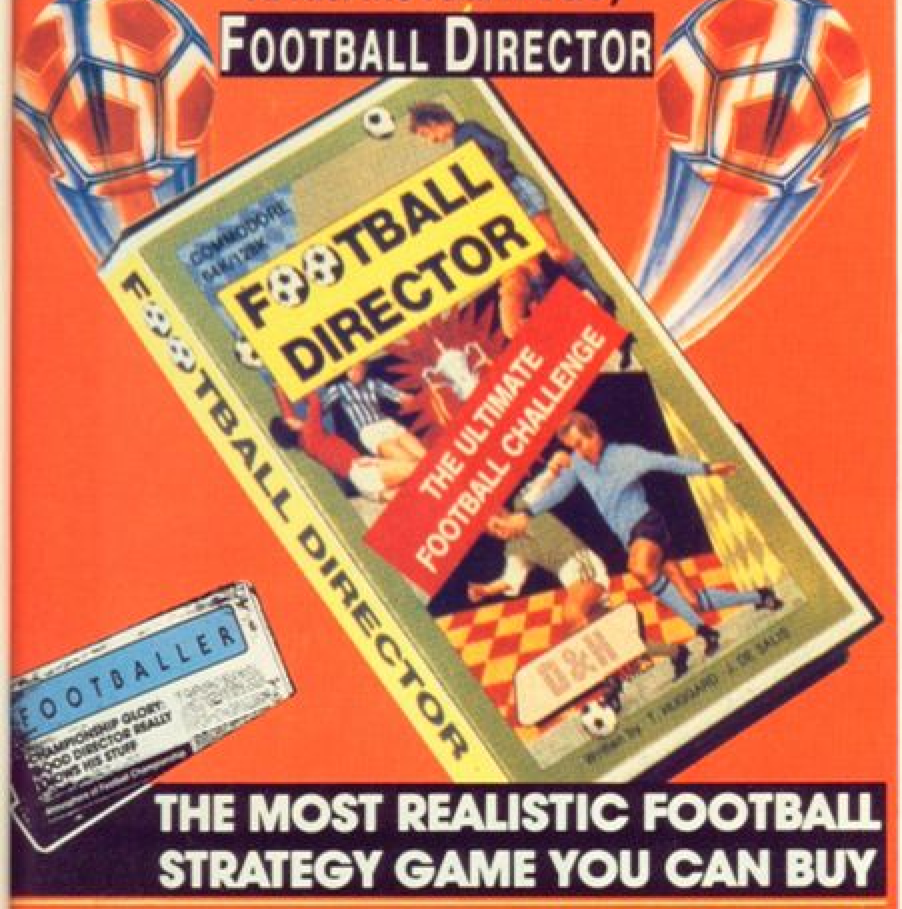
At last the real McCoy

FOOTBALL DIRECTOR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enalties: Players
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Retirements
Transfer Market
Internationals
European Tours
3 Levels
Manager Rating
Printer Option
8 Reserves: Promotion
Relegation
Weekly News
Borrowing: Mortgage
Save Game: Interest
Tax: Sponsors
Full Results
Season Tickets
Next Game
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Crowd Violence: Wages
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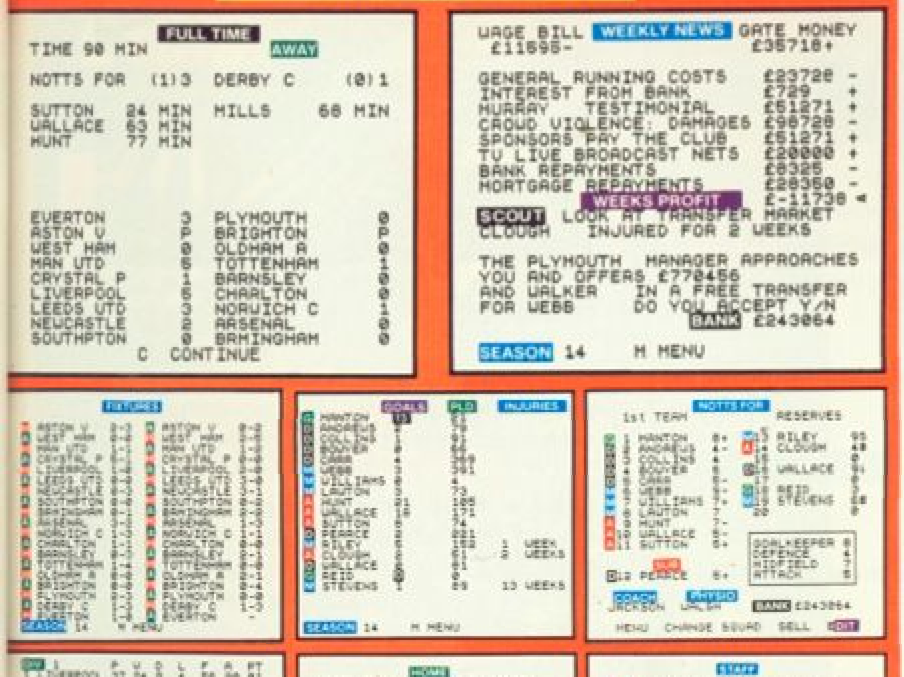
SPECTRUM SCREENSHOTS



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               FULL TIME
TIME 90 MIN                AWAY

NOTTS FOR   (1)3   DERBY C      (0)1

SUTTON    24 MIN   MILLS      68 MIN
WALLACE   63 MIN
HUNT      77 MIN



EVERTON         3  PLYMOUTH          0
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MAN UTD         5  TOTTENHAM         1
CRYSTAL P       1  BARNSLEY          0
LIVERPOOL       6  CHARLTON          0
LEEDS UTD       3  NORWICH C         1
NEWCASTLE       2  ARSENAL           0
SOUTHPTON       0  BRMINGHAM         0
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```

SPECTRUM £8.95 • COMMODORE £8.95 • AMSTRAD £8.95

This game also available by mail order at £8.95 per cassette. Send your cheque/P.O. made out to D & H Games plus a large SAE, with 25p stamp attached. Please write your name and address on reverse side of cheque. (72 hours delivery).

D&H GAMES

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Herts SG2 8LL
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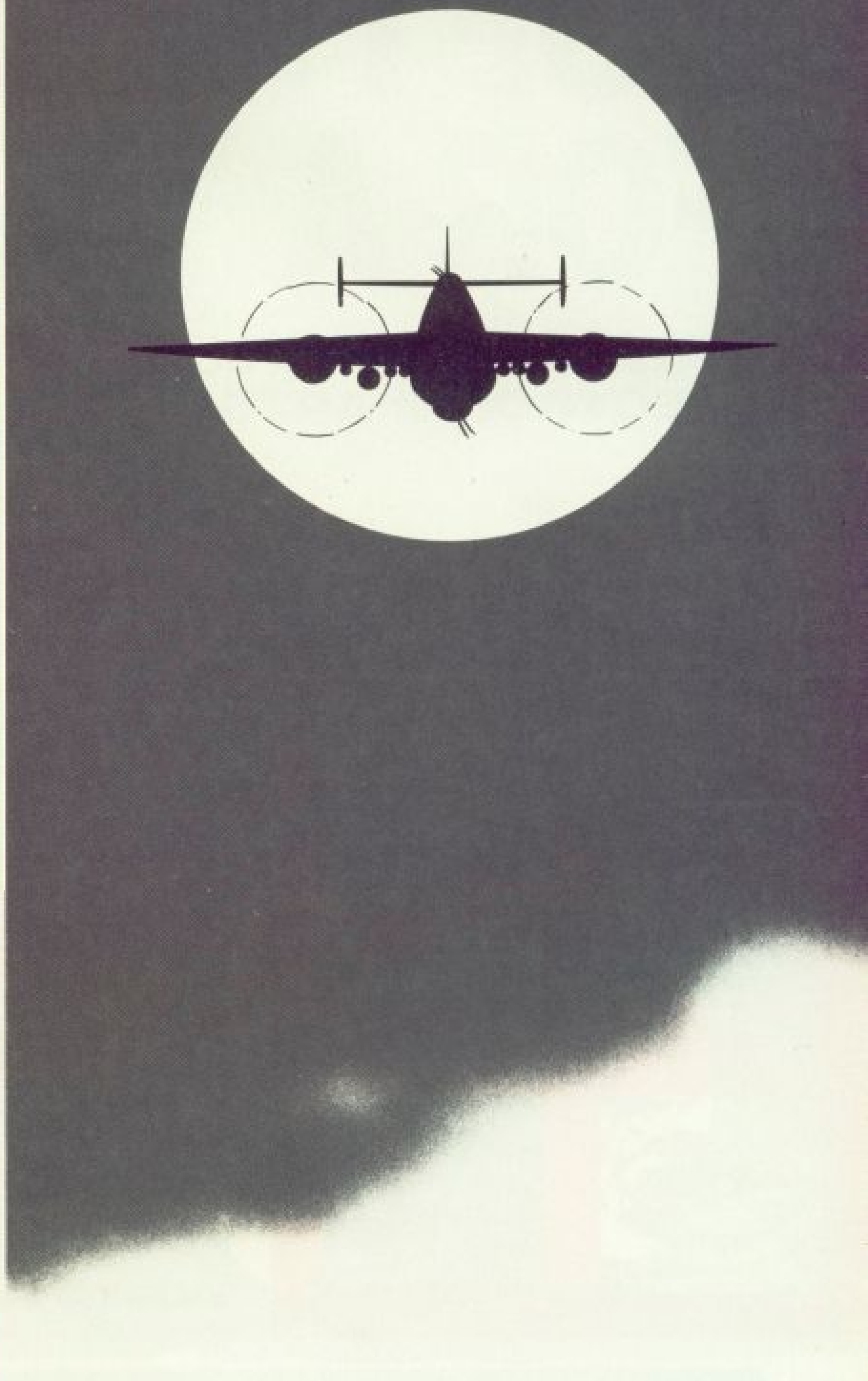
Against a silver moon ...
an awesome shape emerges ...
rumbling towards its destiny.



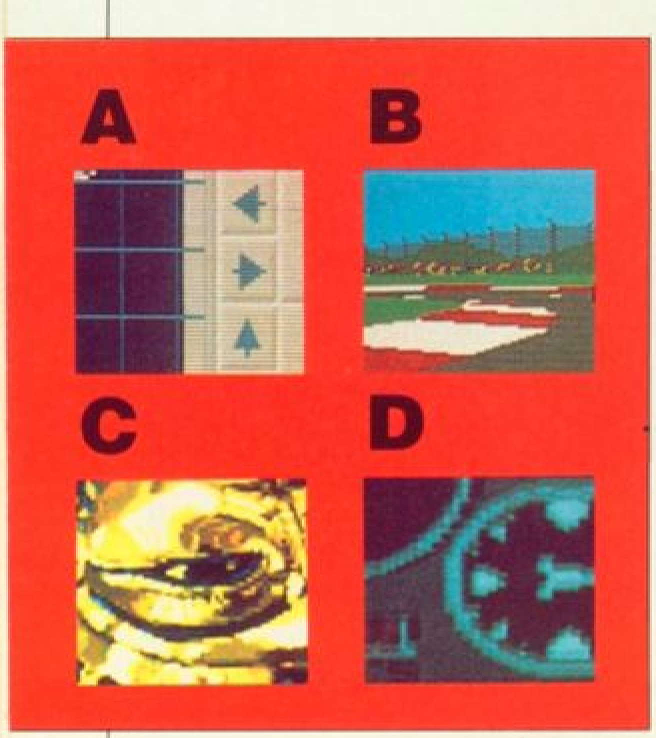
NIGHT RAIDER

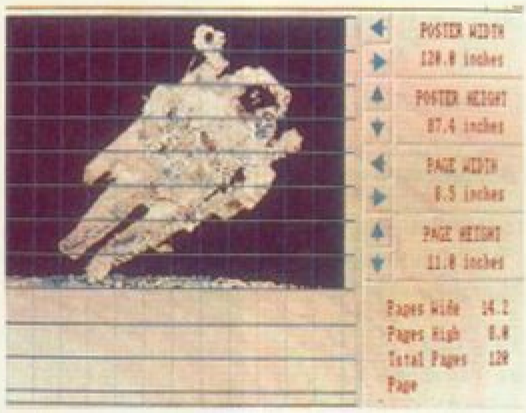
Gremlin Graphics Software Ltd.

FREE EA SOFTWARE FOR A YEAR!

A state-of-the-Art competition from ELECTRONIC ARTS

Four fortunate people will receive ALL Electronic Arts releases for their machine for one whole year. That could mean £500 worth of software at shop prices. And it's all good stuff – get a load of these forthcoming titles:




POSTER WIDTH 120.0 inches
POSTER HEIGHT 87.4 inches
PAGE WIDTH 8.5 inches
PAGE HEIGHT 11.0 inches
Pages Wide 14.2
Pages High 8.0
Total Pages 120
Page

● **Deluxe Photo Lab**: the amazing graphics package (Amiga).

● **World Tour Golf**: tee off and go for a birdie (Amiga).

ENTRY FORM

Cut out this form and send it to **EA Software Competition, ACE, 4 Queen Street, BATH, BA1 1EJ**.

NAME ....

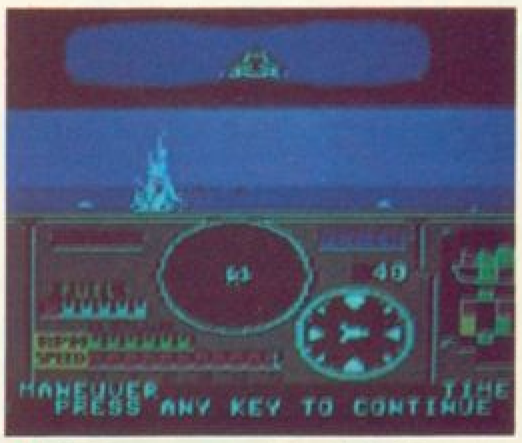
ADDRESS ....

AGE .... TELEPHONE ....

COMPUTER OWNED ....

I think section A is from .... I think section B is from ....

I think section C is from .... I think section D is from ....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MANEUVER
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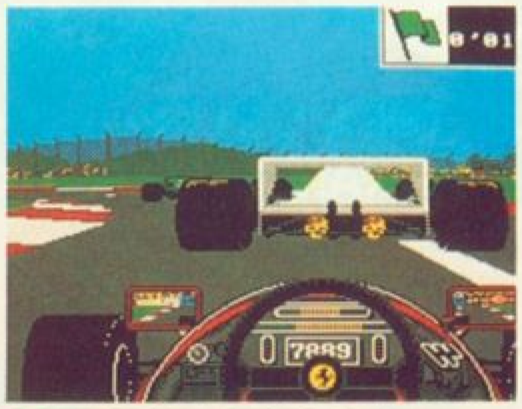
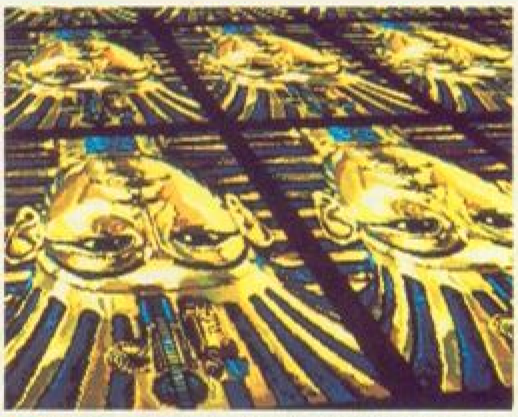
PRESS ANY KEY TO CONTINUE

● **PHM Pegasus**: exciting hydrofoil combat sim (Spectrum, Amstrad).



● **Ferrari Formula 1**: thrilling rev-em-up based on the world's sexiest cars (Spectrum, C64, Amstrad, Atari ST, IBM).



● **Deluxe Paint II**: the ultimate in paint packages (IBM).

● **Bard's Tale**: the acclaimed role-playing game (C64, Spectrum, Amstrad, Amiga - versions 1, 2, 3 released throughout the year).

● **EA's first UK-developed product** - by ace programmer Jez San, of *Starglider* fame. It hasn't got a name yet, but it's going to be really special. (Available across all formats in the autumn).

HOW TO ENTER

In the box above are four sections from the screenshots printed on this page; all you have to do is match up the section to the correct program. So, if you think section A is from *Ferrari Formula 1*, just write that title by the letter A.

N.B. The closing date for entries is July 15th.

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Arcade quality joystick fitted with super sensitive microswitches for the ultimate in joystick control.
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The Competition Pro 5000 and Pro Extra are suitable for use with the following computers:
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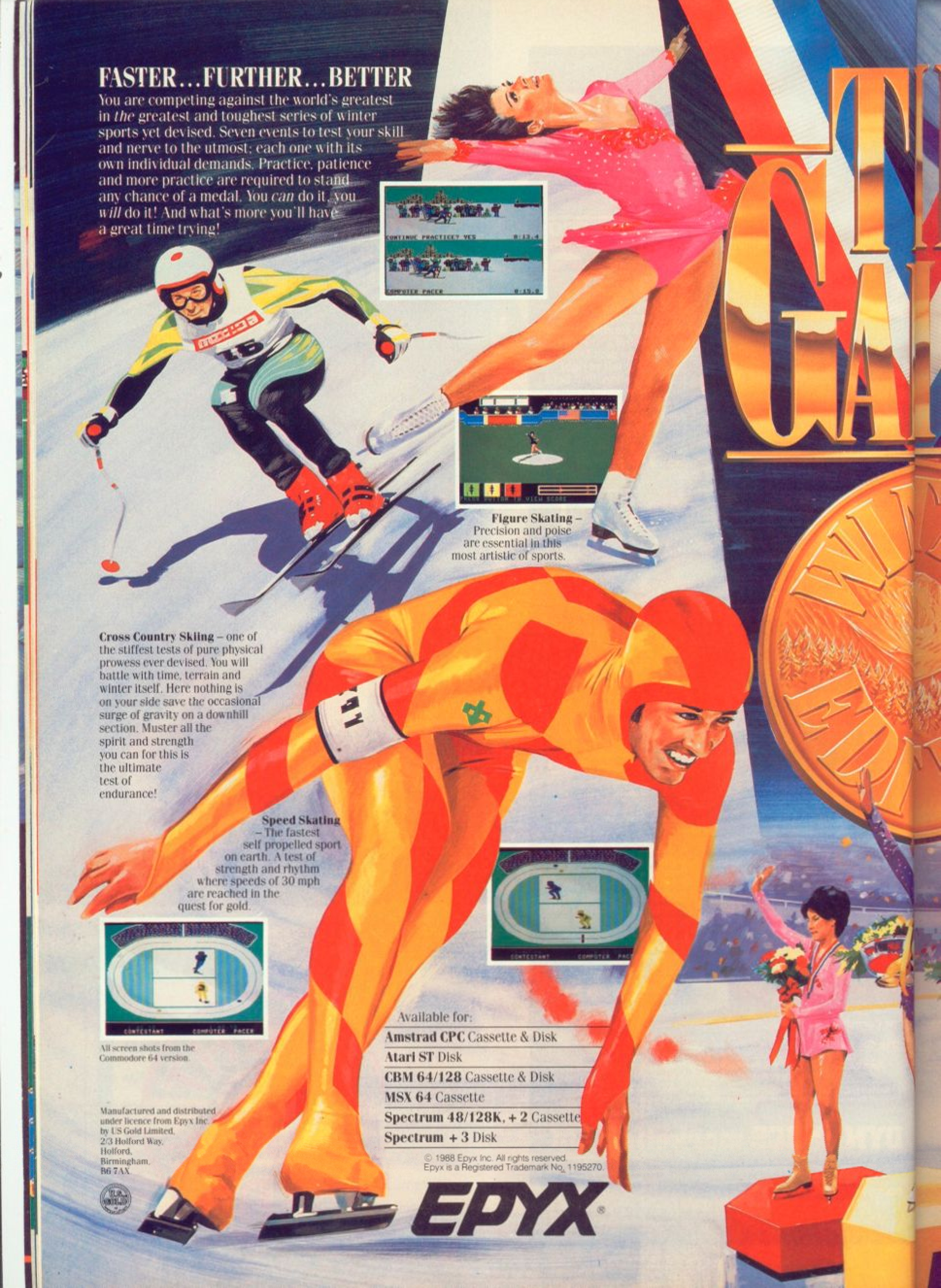

T
GA
CONTINUE PRACTICE? YES 0:13.4
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PRESS BUTTON TO VIEW SCORE
CONTESTANT COMPUTER PACER
CONTESTANT COMPUTER PACER

FASTER…FURTHER…BETTER

You are competing against the world's greatest in *the* greatest and toughest series of winter sports yet devised. Seven events to test your skill and nerve to the utmost; each one with its own individual demands. Practice, patience and more practice are required to stand any chance of a medal. You *can* do it, you *will* do it! And what's more you'll have a great time trying!

Figure Skating – Precision and poise are essential in this most artistic of sports.

Cross Country Skiing – one of the stiffest tests of pure physical prowess ever devised. You will battle with time, terrain and winter itself. Here nothing is on your side save the occasional surge of gravity on a downhill section. Muster all the spirit and strength you can for this is the ultimate test of endurance!

Speed Skating – The fastest self propelled sport on earth. A test of strength and rhythm where speeds of 30 mph are reached in the quest for gold.

All screen shots from the Commodore 64 version.

Available for:

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Atari ST Disk
CBM 64/128 Cassette & Disk
MSX 64 Cassette
Spectrum 48/128K, +2 Cassette
Spectrum +3 Disk

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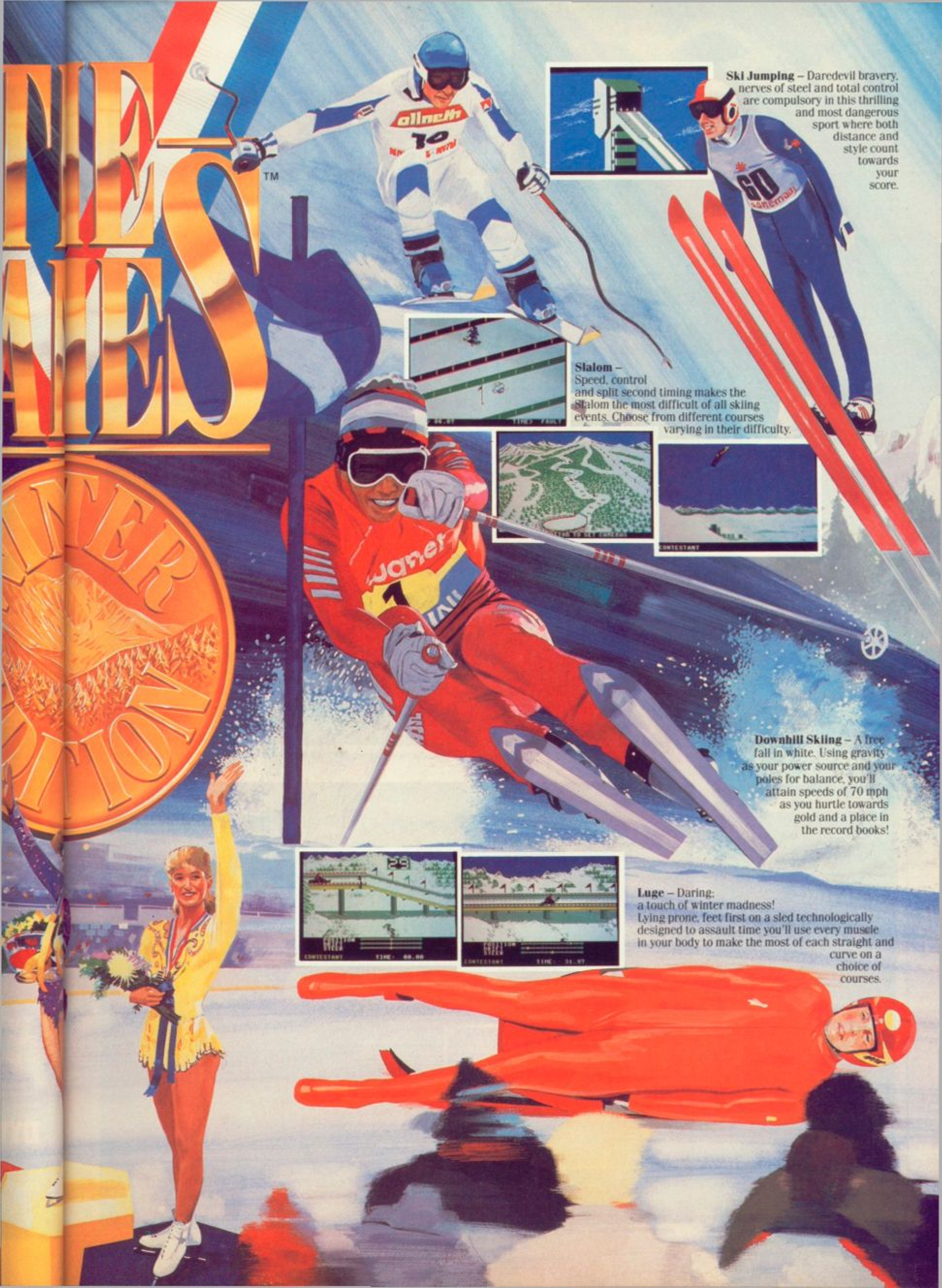


Ski Jumping – Daredevil bravery, nerves of steel and total control are compulsory in this thrilling and most dangerous sport where both distance and style count towards your score.

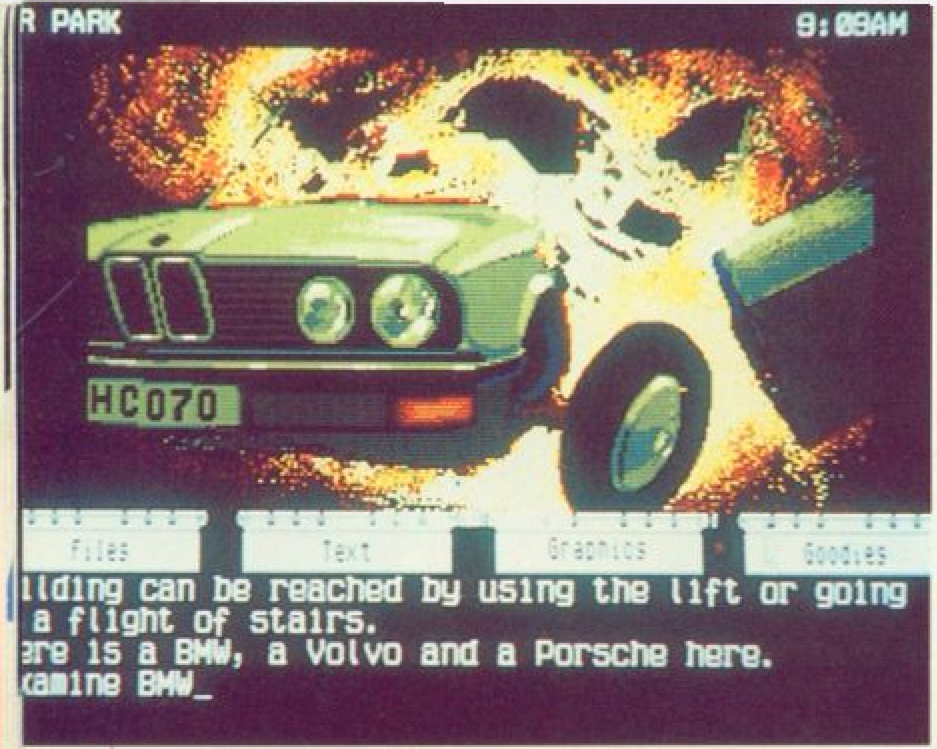
Slalom – Speed, control and split second timing makes the Slalom the most difficult of all skiing events. Choose from different courses varying in their difficulty.

Downhill Skiing – A free fall in white. Using gravity as your power source and your poles for balance, you'll attain speeds of 70 mph as you hurtle towards gold and a place in the record books!

Luge – Daring: a touch of winter madness! Lying prone, feet first on a sled technologically designed to assault time you'll use every muscle in your body to make the most of each straight and curve on a choice of courses.

FOR YOUR EYES ONLY

Pay attention, 007! These are some of the very latest pieces of software the boffins in Britain's software houses have come up with. They'll be issued to agents in the field as soon as the teething problems have been ironed out, but in the meantime we'll put a copy of next month's ACE in your mission briefing so you know what to expect – and for heaven's sake, be careful with them! These games are tremendously powerful, and could get very hot while in use!



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xamine BMW_
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CORRUPTION

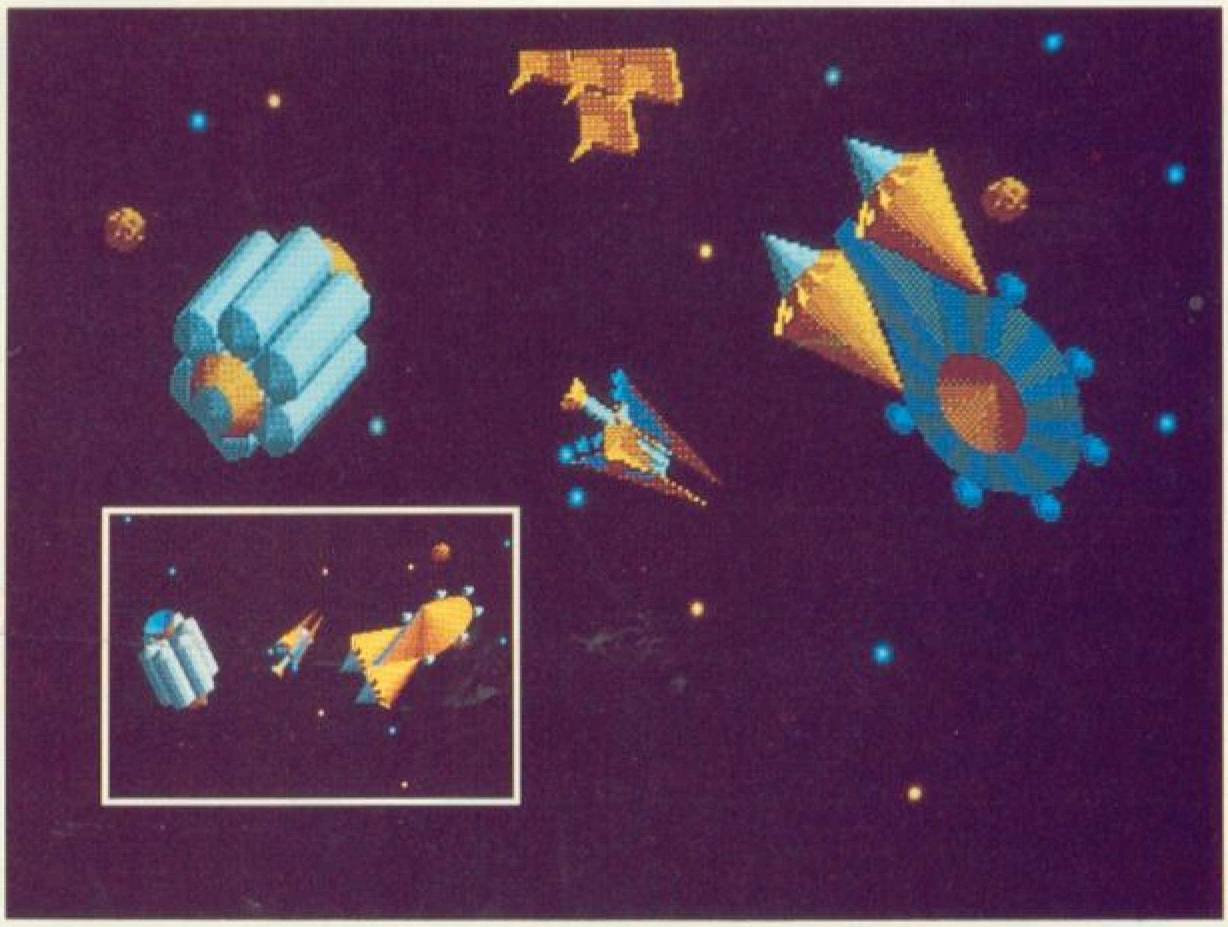
Rainbird/Magnetic Scrolls

These stunning graphics – from the same stable as *The Pawn*, *Guild of Thieves* and *Jinxter* – really belong in the Adventure section, but they looked so good we just couldn't resist putting them in colour. See page 101 for more details, or just gaze at these and wish you had an ST too.

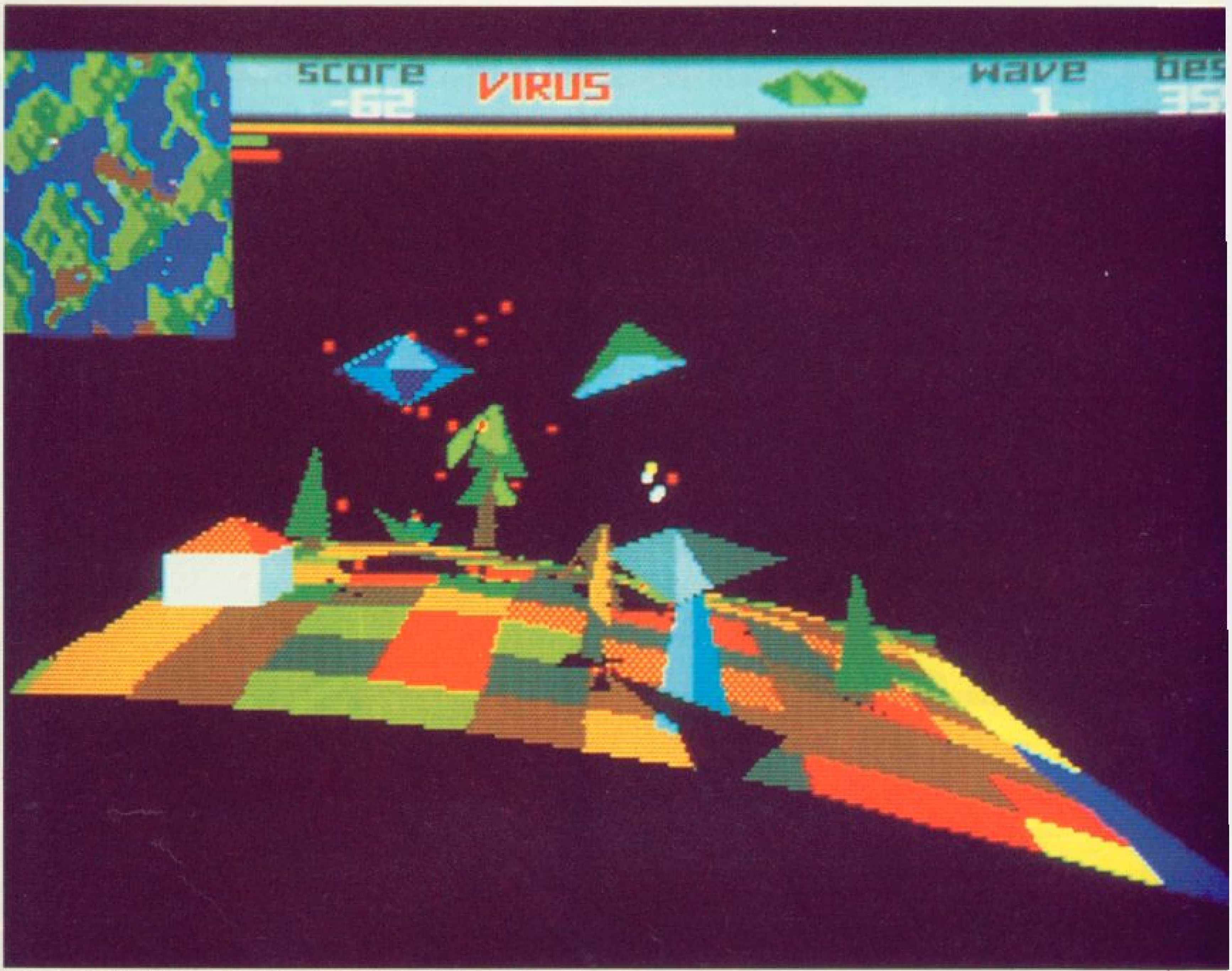
WHIRLIGIG

Firebird

If the Monopolies Commission have got a spare half hour, they might like to consider the way Telecomsoft are cornering the market in state-of-the-art solid 3D graphics. We brought you news of this hot little property back in ACE issue 7, when we visited programmer Mike Singleton and his Maelstrom team. As you can see, it's a far cry from *Lords of Midnight* – but Mike's still got the visual flair to knock everyone's socks off!



► ST – The same cluster of ships viewed from two sides.



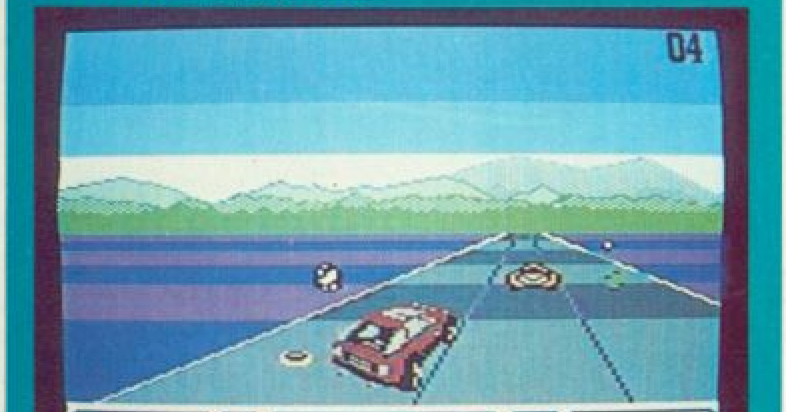
ST - That two-tone blue flying saucer is an alien seeder craft, spraying the landscape with red virus.

ROAD BLASTERS

US Gold

Atari's remarkable coin-op – rather like *Out Run* with a nuclear strike capability – is making its long-awaited transfer to the home micros. Without the route choices of *Out Run* it should fit into the 8-bit machines rather better, but all that terrifying speed and completely unreasonable violence will make it a tall order, to put it mildly!

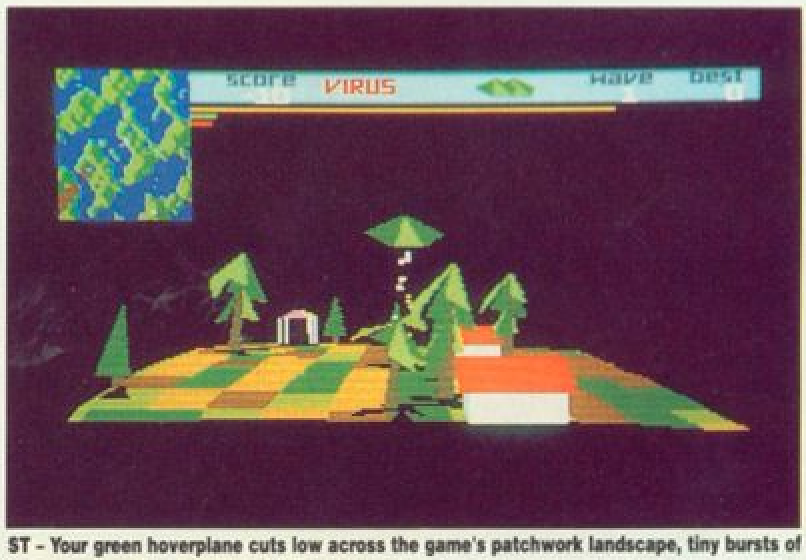
C64 - Drive like a maniac, sting like a bee!



VIRUS

Firebird

You're probably sick of hearing about it by now, but the ST conversion of David Braben's astonishing Archimedes shoot-em-up *Zarch* has finally got a name everyone's happy with. The game's very nearly finished now – we'll give it the usual thorough ACE treatment next month – and it looks mind-numbingly good, but will it really work on the Spectrum? Surely not!



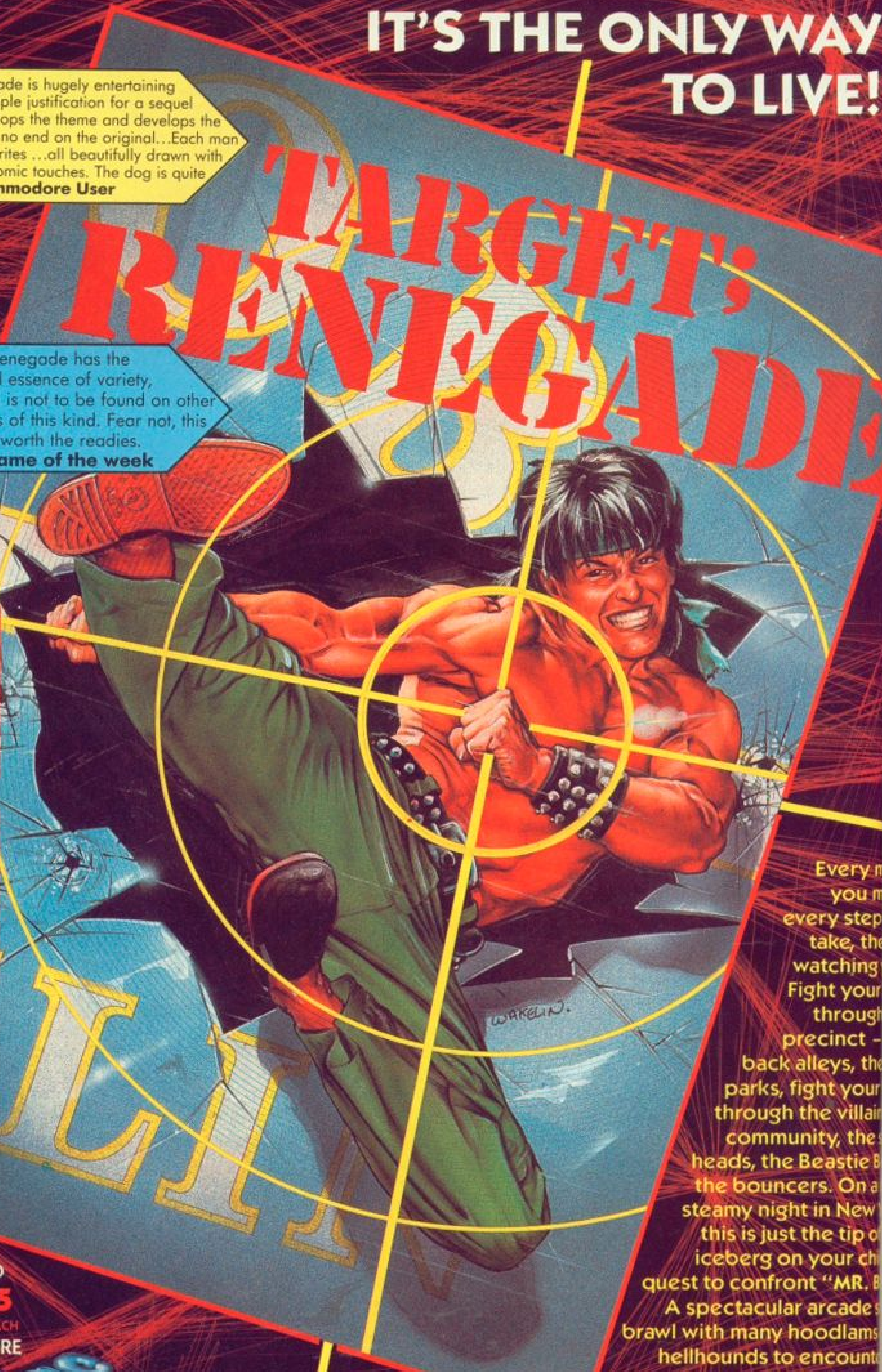
ST - Your green hoverplane cuts low across the game's patchwork landscape, tiny bursts of thrust keeping it just clear of the rooftops.

TAKE 'EM ALL ON...

IT'S THE ONLY WAY TO LIVE!

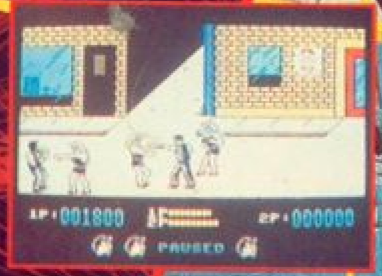
Screen Star

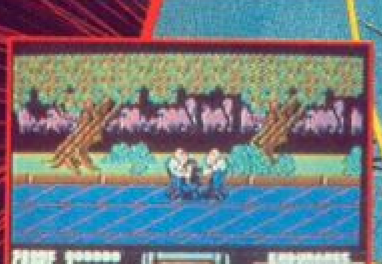
Target Renegade is hugely entertaining and ample justification for a sequel …it develops the theme and develops the game play no end on the original…Each man is four sprites …all beautifully drawn with great comic touches. The dog is quite wonderful. **Commodore User**

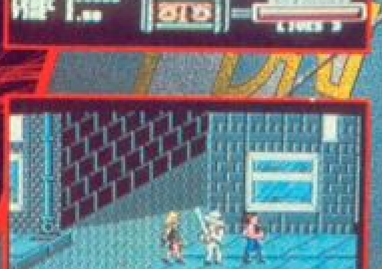


PCW GAME OF THE WEEK

Target Renegade has the added essence of variety, which is not to be found on other games of this kind. Fear not, this is well worth the readies.
PCW Game of the week







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OVER THE RAINBOW

As the programming fraternity has become more familiar with the intricacies of coding for the Motorola 68000 series chips, the true nature of these beasts is becoming apparent. Using obscure and almost undocumented features, first Amiga and then Atari ST software developers have discovered ways of displaying the complete palette of 512 or 4096 available colours on-screen at once.

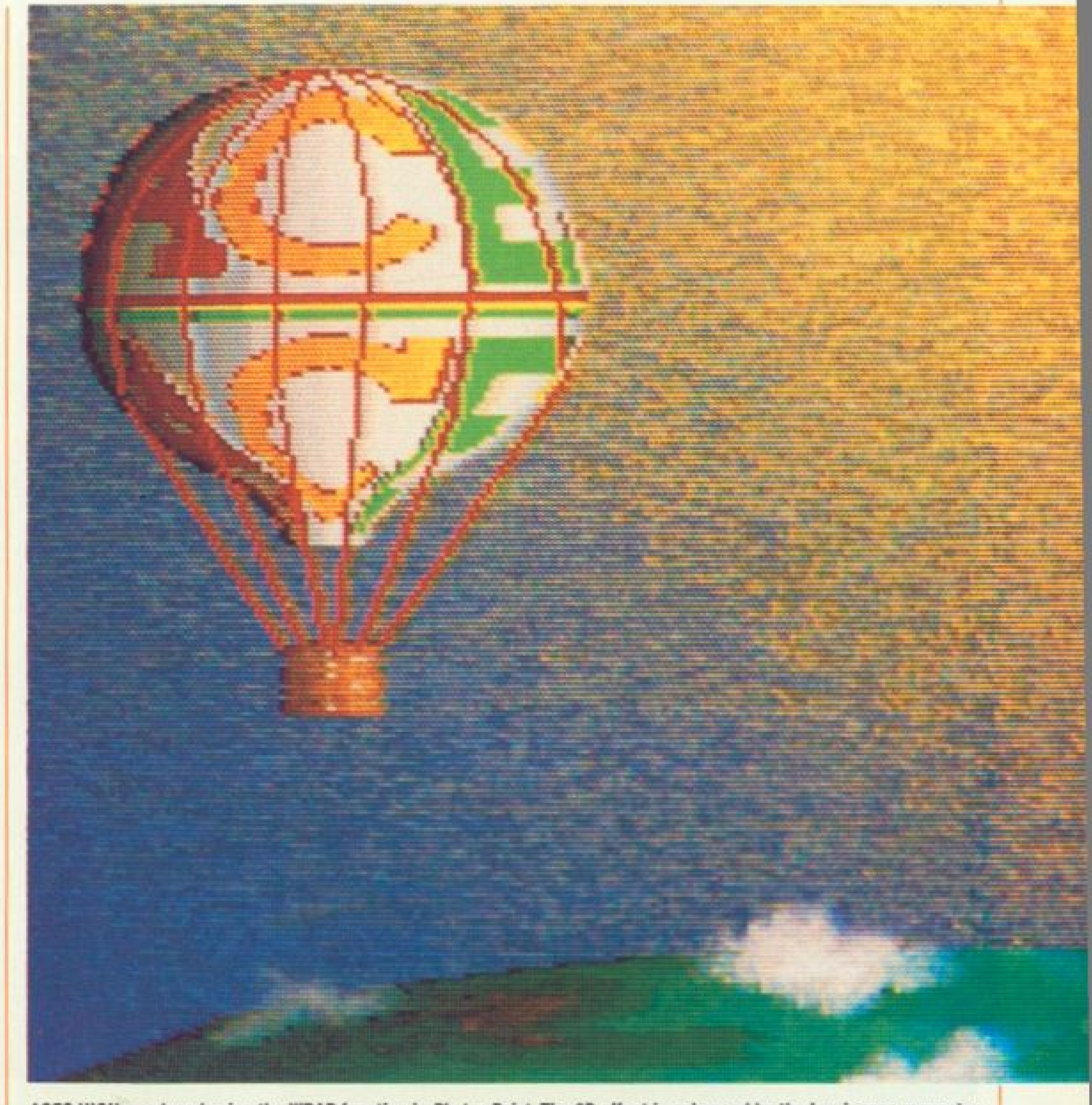
There are now at least two packages for the ST and a dozen or more on the Amiga that can display and manipulate 'Omni-colour' images. Two of these – *Spectrum 512* for the ST, and *Photon Paint* for the Amiga – have recently appeared in the UK. They represent the state of the art in graphics for the Amiga and ST, yet they are very different packages, focussing on quite different aspects of 'screen-painting'. Brian Larkman tries them out.

'OMNI-COLOUR' PAINTING

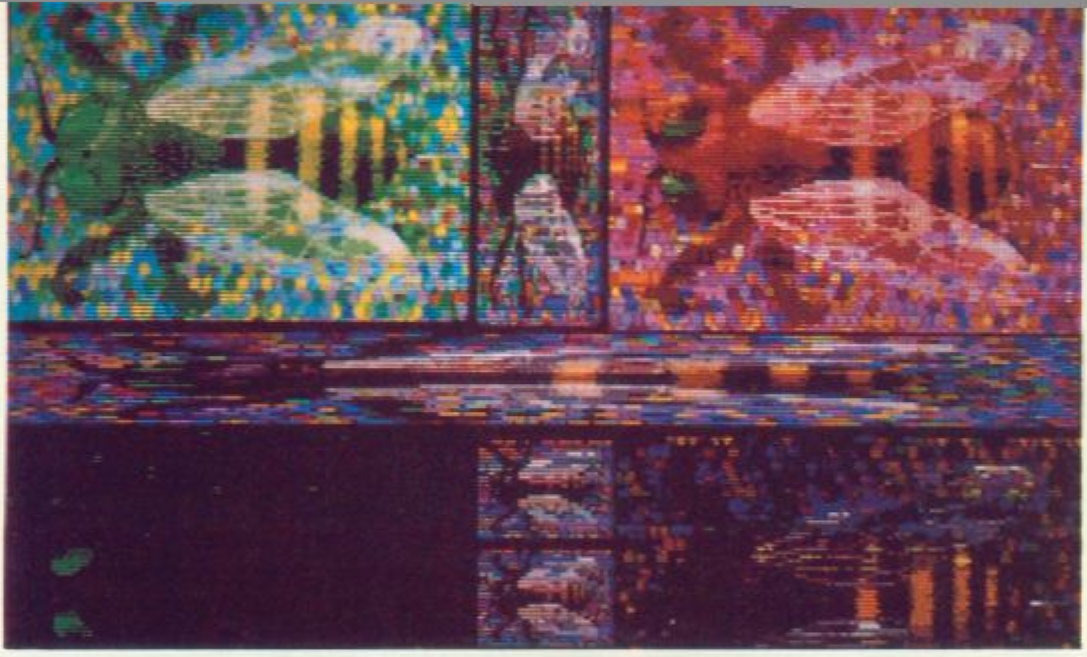
Although it is usually pointless comparing packages for different machines (the only real choice was made when we decided on which computer to buy), it is interesting in this case because *Spectrum 512* is SO innovative. It manages to provide some completely new drawing tools and unique ways of operating some of the old ones, using the large palette in a very effective way, despite the Amiga's previous lead in this area.

Photon Paint also has a number of new features that rely on a large palette, but by maintaining the basic layout and operating methods pioneered by the original *Deluxe Paint* and *DigiPaint*, it feels more like the obvious development of a theme rather than searingly new. This will work greatly in its favour, especially if the development continues and puts right a number of surprising and annoying deficiencies. Most people find it easier to learn new software if it uses familiar icons and key maps, though this sort of standardisation can sometimes 'lock' awkward methods into the system.

Both packages have most of the normal contingent of drawing tools, though *Spectrum 512* has no means of drawing regular boxes or adding text to the image, *Photon* has no airbrush (!!) and neither has any form of gridlock. *Spectrum 512* also has an outstanding plus – a 'French-curve' that can be fitted to zig-zag lines drawn with the rubber-banded polygon tool. The really innovative aspect of this is that it also applies anti-aliasing to the curves as it draws them, using suitable colours to slightly blur the effects of 'staircasing' on diagonals. Very clever! *Spectrum* also uses a totally new method (to



ACES HIGH: produced using the WRAP function in *Photon Paint*. The 3D effect is enhanced by the Luminance requester.



BEES: showing how you can achieve transformation effects in *Spectrum 512*.

me anyway) of scrolling the magnify window each time the cursor bumps into its inside boundaries. Even the dragging open of circles and ellipses is quite different in this program, but once mastered, most of these new techniques are quite intuitive and easy; definite improvements.

MIXING COLOURS

If an omni-colour program is going to be any real use it must provide an easy way to select and mix colours without being too confusing. *Spectrum 512* nearly falls down in this area because it provides so many facilities that at first it's easy to get lost. However, like most other aspects of this package, with practice the colour controls are straightforward and comprehensive, allowing any number of limited or unlimited palettes to be set up and saved.

Photon Paint uses a system of colour control pioneered by *DigiPaint* that will also probably become a standard for the Amiga, at least for 16-bit, 4000 colour systems. (When the 32-bit, 16 million colour systems start appearing, the colour wheel used frequently in the computer graphics industry will probably take over.) As far as it goes the *DigiPaint/Photon* system is very good and allows the setting up of a palette of 64 colours. These can be selected at random as required, or carefully calculated to produce a progressive range of shades.

The flaw in the system is the HAM mode of the Amiga itself. Somehow the programmers of *Spectrum 512* have managed to provide a system where almost any colour can be next to almost any other without causing fringing effects. When choosing individual colours to draw with in *Photon* (or any other HAM package), the effect is often spoiled by fringing and spurious colour effects. These problems can be reduced by careful selection of 'base colours', but generally one is more aware of HAM's limitations than of the system used by *Spectrum 512*.

BLOCKS AND BRUSHES

The tools and techniques discussed so far represent, with a few exceptions, the same methods that would be found in any drawing package. Where these two differ is in the way that they can manipulate an image once it is on-screen. For that reason the various abilities of each are discussed separately.

A full colour image can be overworked in two main ways; by editing either the colour or the form of a chosen group of pixels. Most systems provide a means of picking up part of a screen as a 'block' or 'brush' and pasting it down again. *Deluxe Paint II*, for example, allows an area to be transformed and distorted in a number of ways by changing the form of the group of pixels in a brush. When these are pasted down onto the screen, they, and the pixels that they overwrite, can be made to change colour in a variety of ways that produce blurring, smearing, smoothing, hue and luminance changes, and a host of other effects. To a varying degree, both *Spectrum 512* and *Photon Paint* can produce all of these effects and more, though as we shall see, each has an area of strength and one of weakness.

SPONTANEOUS COMBUSTION

Comparing two packages designed for different machines seems a reasonable exercise,

SPECTRUM 512

Antic/Electric Distribution £59.95

As always, *Spectrum 512* has a unique way of doing things. To select a block of the screen a rubber banded box is drawn out as usual. The area selected is available for use or it is copied to a buffer zone that is 12 full screen pages in size. Every block copied to the buffer remains available for as long as required. This all seems quite normal until the buffer area is entered. Here all blocks cut or copied can be viewed in seconds by holding the right mouse button and dragging the screen smoothly and quickly up or down. It really is as simple as holding a strip of transparencies or negatives up to the light. Fantastic! To pick up a block only requires a double click on it, even if it is a full screen. (Yes, 12 full screens can be stored at once on a 1040 and even saved all together in a compressed form.)

When a block is pasted back down a number of options are available. All blocks are anti-aliased as they re-draw. By pressing a combination of Shift, ALT and cursor keys the block can be re-sized and flipped. It is not possible to bend, rotate or give perspective (tilt) to the blocks, so in general the form editing characteristics of *Spectrum 512* are rather limited. Nevertheless, an interesting range of transformations can be achieved as shown in the picture BEES.

From within the block menu the gradient fill function can be initialised. Exploring this could be a lifetime's work in itself for it provides a range of fills that seems to be limited only by the imagination. Getting to grips with it is probably the most difficult (and most rewarding) aspect of the package so there is only room here for a brief description.

Gradient fill operates in conjunction with any custom palette you might have set up producing a wave of colours emanating from various 'source' or 'seed' pixels you have placed on screen. If the palette contains a range of colours progressing from light to dark for example, the gradient will similarly be light to dark; if it is a spectrum of hues, so will the gradient be. Any of the drawing tools can be used to position the 'sources' and other selected colours can be positioned to modify the gradient and mask the background. Once again Antic have provided a unique way of implementing gradient fill, but once mastered it should be amazingly versatile and controllable.

A simple example of the possibilities of gradient fill is shown in the picture CANYON.

As well as gradient fill *Sp512* provides several other ways of editing colour: locally, globally, or within a block – including anti-aliasing, blurring, contrast control, hue shifting and brightness. Overall, the colour editing tools provided by the package are quite remarkable both in their versatility and in the unique way they are implemented. The form editing tools are not so good, representing the weakest aspect of an otherwise difficult but remarkable program.

WHICH ATARI PACKAGE?

Some reviewers rate *Quantum Paint* (Eidersoft – see ACE 6) over *Spectrum 512*, mainly because of the price (£20 – £70). *QPaint* IS a bargain but what is the point of all those colours if you cannot really use them? If version 2 (with lots more colour editing tools, apparently) is the same price, then it will compete. At present *Spectrum 512* is far better.

COLOUR TERMINOLOGY

HUE refers to the position of a colour on the colour SPECTRUM or rainbow. These are Red, Orange, Yellow, Green, Blue, Violet and the SHADES between. SATURATION describes the purity of the hue or the amount of white it contains - e.g. pink is low saturation red. VALUE refers to the level of black in a hue - e.g. maroon is low value red.

but making a value judgment about which is best can only lead to tears, so I will not do it. At present these two represent the ultimate drawing systems for their respective machines though they both have their weaknesses. Remarkably, the weaknesses of one are the strengths of the other and vice versa in almost every area.

If *Spectrum 512* had the brush distortion, contour mapping, perspective, blending and fonts of *Photon Paint* it would be perfect. If *Photon Paint* had the French curves, anti-aliasing, sliding buffer and airbrush of *Spectrum 512* its users would probably spontaneously combust, myself included. ●

WHICH AMIGA PACKAGE?

Deluxe Paint comes bundled with most Amigas at present. *Deluxe Paint II* and *DigiPaint* were compared in ACE issue 3. *Photon Paint* comes about mid-way between the latter two offering most of the facilities of each and a few more. Missing from *Photon* is *Deluxe*'s level of control of almost every function, its ability to paint fluidly with brushes, its pattern fills, the airbrush. *DigiPaint* has a greater range of colour editing functions and not much else, certainly nothing like the brush manipulation; but watch out for *DigiPaint 2*, it could have all those *Spectrum 512* goodies! *Prism Plus* is not really in the reckoning. *Deluxe* AND *Photon Paint* would be ideal as things stand.

PHOTON PAINT

Microillusions/ Activision £69.99

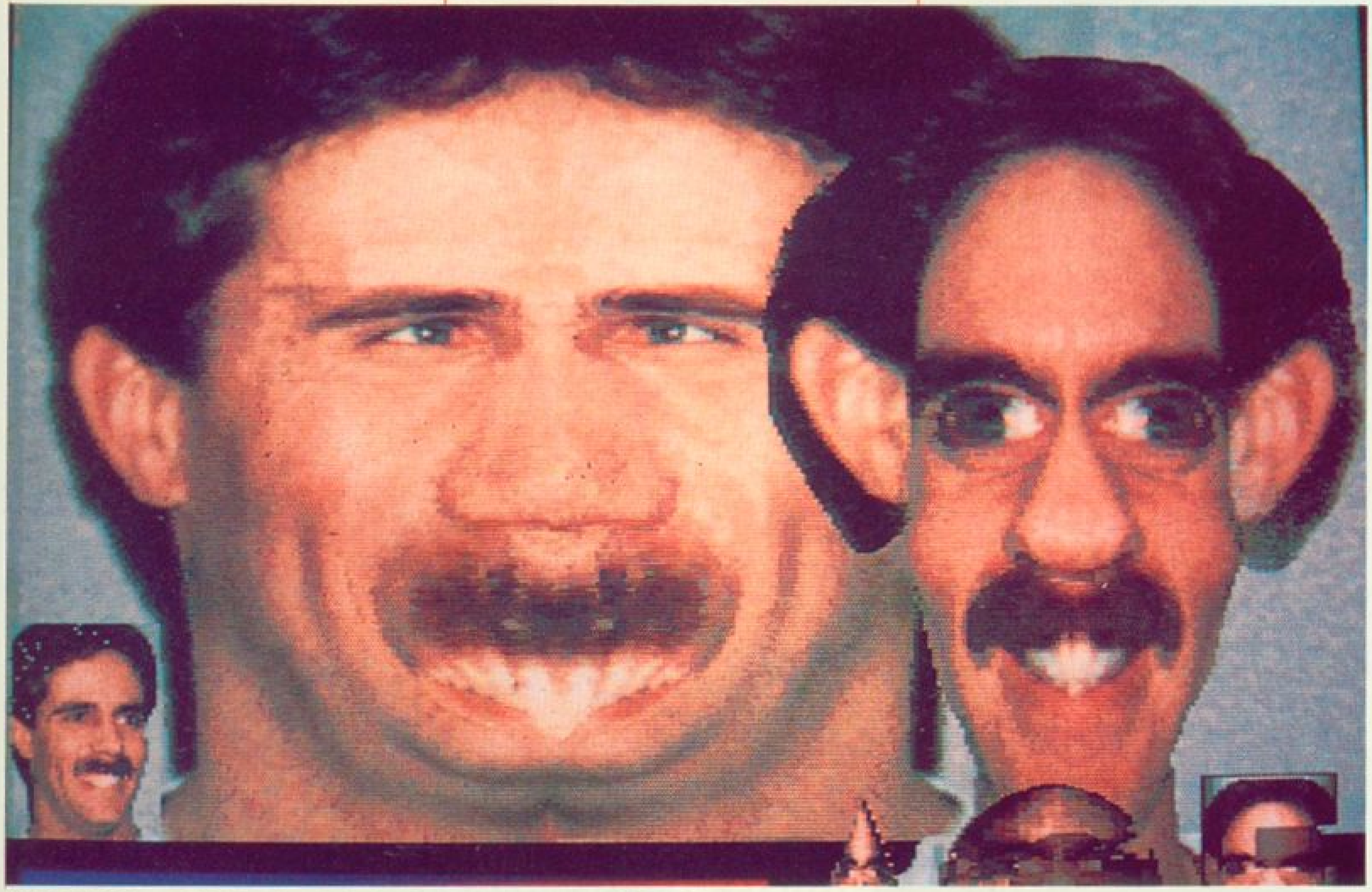
In many ways *Photon Paint* is very similar to *Deluxe Paint II*. Anyone who has used *DPaint* will certainly have no trouble using the brush tools in *Photon*.

A brush can be picked up from the screen by dragging a box out or by lassoing an area (allowing an object to be cut from a complex background). Once an area has been captured any one of a set of form editing tools can be employed. These are as remarkable in their way as the colour editing tools of *Spectrum 512*. Any brush can be flipped (mirrored vertically or horizontally), resized by two or half in either direction as well as freely, twisted into a 3D spiral, rotated in 900 increments or freely, bent horizontally or vertically, tilted in the x, y or z planes to give a perspective effect and, most spectacularly, wrapped around a number of 3D geometric shapes. These last include a sphere, an ellipse, a tube, a cone, a cube, or a free symmetrical solid (a heart for instance). HALL OF MIRRORS shows the use of several of these tools (The original is shown in one corner!).

At first this 'Wrap' function seemed to be a bit of a gimmick, but in practice it has proved to be very versatile and useful: quite addictive in fact. The picture ACES HIGH was produced very quickly using 'wrap'. Both the surface of the earth and the 'ACE' balloon were originally flat drawings, picked up as brushes then 'wrapped'. The three-dimensional effect is enhanced by the Luminance requester. This provides gadgets to position a light source and alter its brightness. With a bit of experiment the 3D Wrap and Lighting function should give some remarkable results.

Like *Spectrum 512*, *Photon Paint* also provides a number of tools to apply a range of colour though these are very much more controlled by the program. Such control makes the results much less versatile and experimental, but very much easier to understand. Like *DigiPaint*, the effect of a brush pasted onto the screen is determined by the mode menu. Depending on your selection the brush can overwrite the background completely, add/subtract the colour of its pixels to/from those of the background or blend to a varying degree with the background. Blending is controlled with a very neat requester that allows the gradient and degree of dithering employed to be varied in a number of ways. The effect of blending is to allow transparent, smoothly rounded, shadowed or brightened areas of the image to be produced automatically.

Overall, the form editing tools of *Photon Paint* are quite remarkable, especially for a HAM program, surpassing even those of *Deluxe Paint II*. The colour editing is not as remarkable, though adequate enough for most people providing they have not just finished using *Spectrum 512*.



HALL OF MIRRORS: more of the distortion and colouring effects that you can get out of *Photon Paint*.

The winner of our 'Edit ACE For A Day' competition is Peter Cook, 27, soon to be a games designer at Elite Systems. Peter first became involved in computer entertainment when he became obesssed with *Elite* (the game), bought for his BBC micro. He now owns an Atari ST, and admires software that 'takes a bit of thought as well as being exciting.'

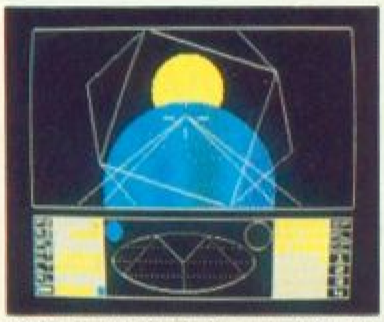
GAMES DESIGN

What makes a good game? Is it the amazing graphics? Fantastic sound? Is the programming the best you've seen in a long time? Winner of the fabulous 'Edit ACE For a Day' competition, Peter Cook, tells you what's what.

Perhaps it's a good game because of all these things as well as an original idea that grabs your attention and continues to hold it for a long time? Are the flashy graphics, packaging, advertising and sound effects worth the money you've paid for your software?

Take a recent 16-bit game like *Eco* – it has nice graphics, great sound etc. but fails to hold the attention due to the lack of gameplay. It could have been an excellent game if, at the design stage, a lot more thought had been put into the choices and objectives to provide a lot more variety. That classic game *Elite*, which sold to 50% of the software buying market had, for a lot of people, the ingredients needed to hold the imagination and usually kept you on the edge of your seat.

Software houses should learn from this; a game which has more time spent on it in the development and design stages produces a game with a long shelf life which will occupy the player for a long time. Of course, software houses will need to produce short time hits to provide a constant income. Although games like *Elite*, *Dungeon Master* and *Captain Blood* initially cost more time and money to produce, as far as I'm concerned it is money well spent if the game fulfills the objectives outlined in my first paragraph. I realise the risk software houses take in releasing a game which costs a lot to produce and then flops for whatever reason – but these risks must be taken for games to improve. If the game is well-designed and the initial idea is good then the product should do well.



ELITE - 'Addictive in its complexity, but also thrilling in the arcade combat sequences. Let's hope that *Elite 2* has more missions; the first game was just a little on the repetitive side.'

LOADS OF MONEY

The old comparison between the software market and the music industry helps to prove that although a lot of money can be made from the charts, the material is usually bland and predictable. Long-term artists and experimenters like Peter Gabriel, Kate Bush and Paul Simon, for example, who take a long time to produce their work, stay popular, survive long term, make excellent music and 'loads of money' for themselves and their record companies. These types of artists build up a hardcore following of people who appreciate the music and the obvious time and feeling that has been put into the work. This is not to say that the charts don't see this type of music – a piece can be both popular as well as experimental.

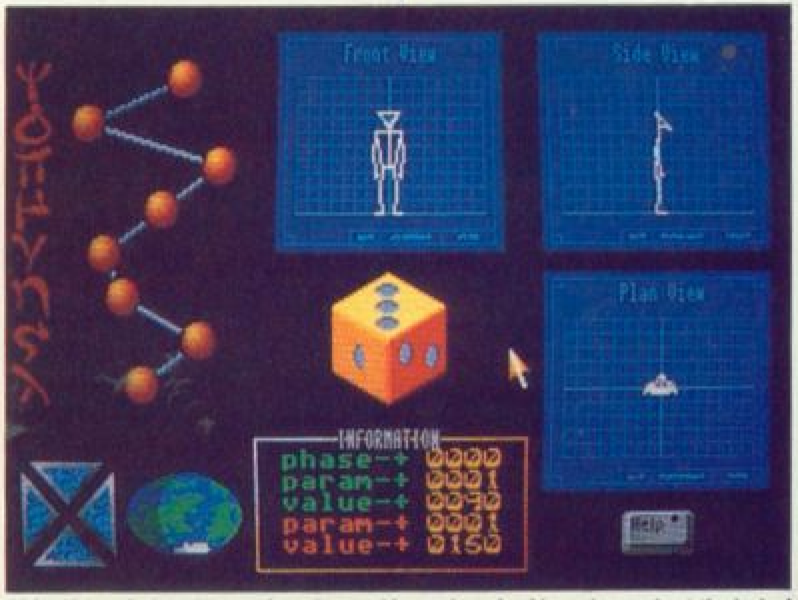
Going back to software, the point I'm trying to make is that if fewer games were released there would be more time for the software house to think about the product. This will hopefully provide much better gameplay which will encourage the public to buy more copies of the game. It's simple – if the game's rubbish people won't buy it; if it's great, more people will buy and keep on buying over a long time. As a rule, programmers are a logical breed – a valuable talent – and there have been some brilliant games written. But as a designer and a games player I notice the absence of designers in software houses who can create a game which will stir the player's imagination and have elements which will inspire the player to continue playing for some time.

FRESH IDEAS

Where are the new ideas to come from for the next fashion in games? Or fresh ideas for the new technology like 16-bit, CDI or transputers with all their improved graphics and huge memory. Can the coin-ops and film tie-ins go on forever? *Eco* certainly wouldn't transfer too well to CDI in it's present form. The future is already here in the form of CDI, and more interestingly DVI (Digital Video Interactive). Atari are about to release their CD ROM player and the RCA laboratories have developed DVI which gives 72 minutes of motion picture video on a compact disc. Cinemaware have been involved in DVI for 9 months and are currently working with Paramount Pictures who are producing a series of stories based on the old *War of the Worlds* film. Cinemaware have had access to all the information behind the production and will be shooting an interactive video side by side with the production team and they will probably release coin-op and personal computer versions to follow. Microprose have also begun working on some CD ROM games to be released at the beginning of next year, which should mean we'll see (if we can afford it) some amazing simulations.

Today we are beginning to see what computers can really do – don't let us down, software houses, let us see some creative, long-term developments – including game designers – to produce a generation of creative, original ideas that will stretch the computer's capabilities but allow the player to become more than a marksman. I realise the necessity for software houses to make a profit, but there are a few software houses who are using a bit of imagination and are producing games which are popular and have that certain something that makes the game a classic. ●

The two Petes. Prizewinner Cook (right) designs his page with editor Connor (left).



ECO - 'A lot of thought went into the graphics and music side - shame about the lack of gameplay. More control over the character would have been nice. More mutations - a flying man, for instance - could have livened things up.'

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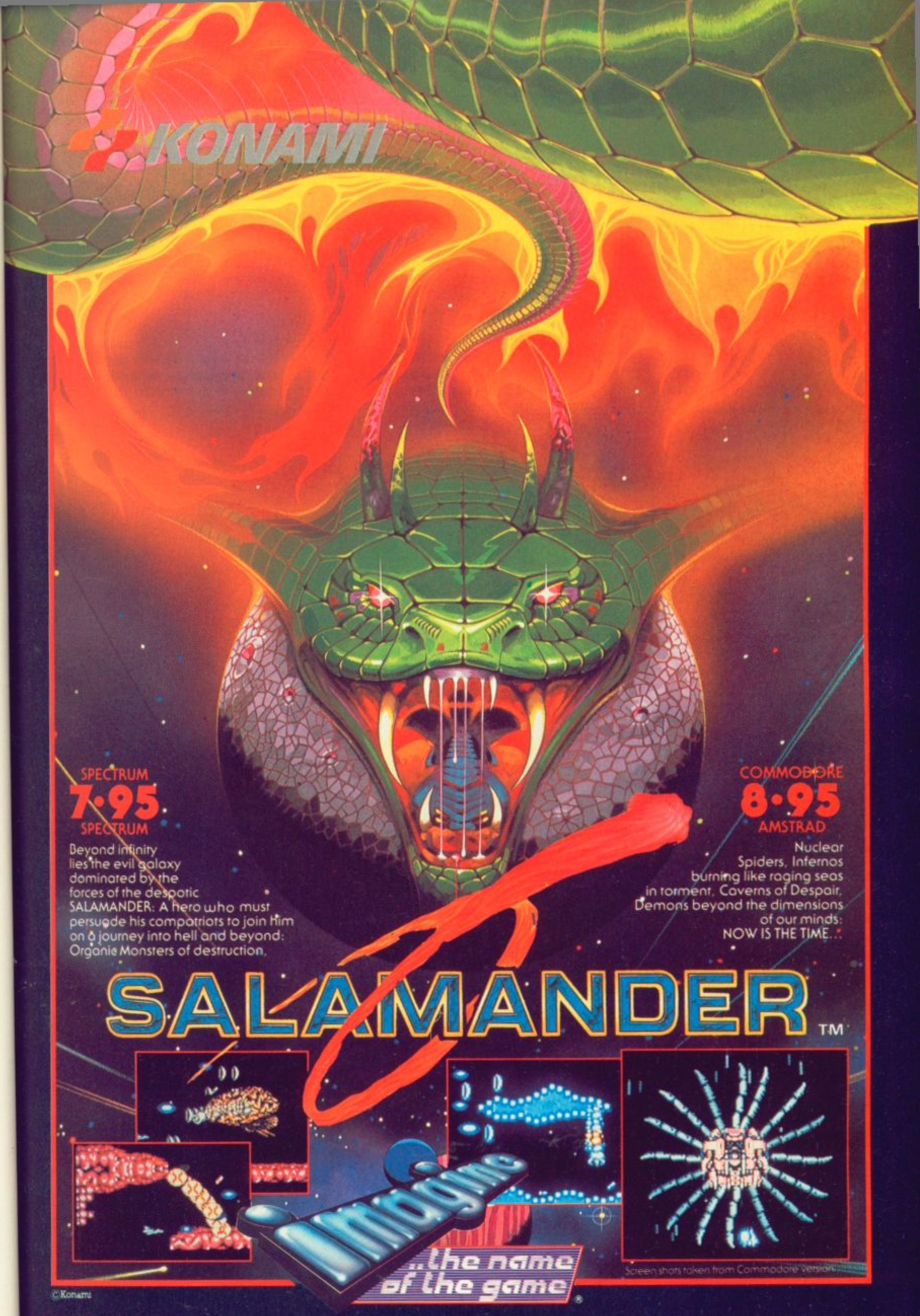

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AMSTRAD

Nuclear Spiders, Infernos burning like raging seas in torment, Caverns of Despair, Demons beyond the dimensions of our minds: NOW IS THE TIME...

Screen shots taken from Commodore version.

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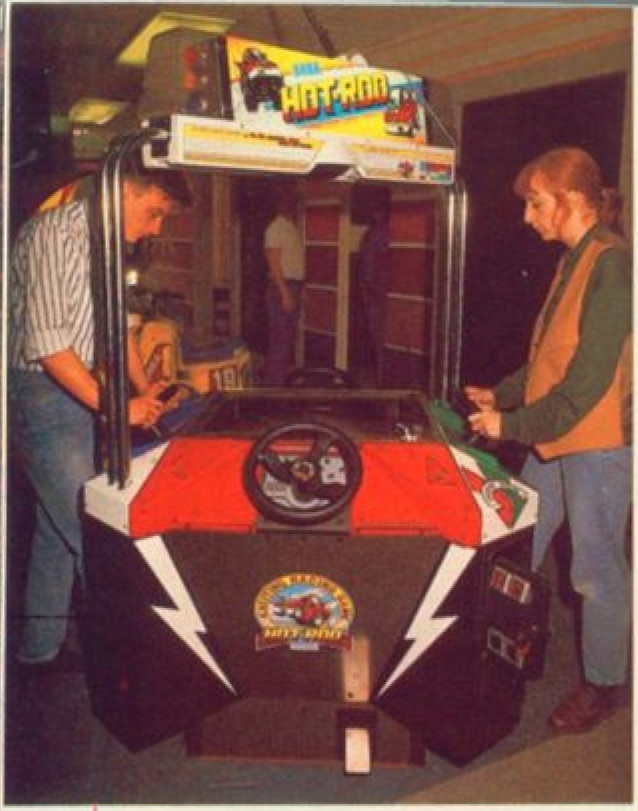


ACE's fearless reporter (controlling the blue car) takes on all comers – and gets a severe pasting.

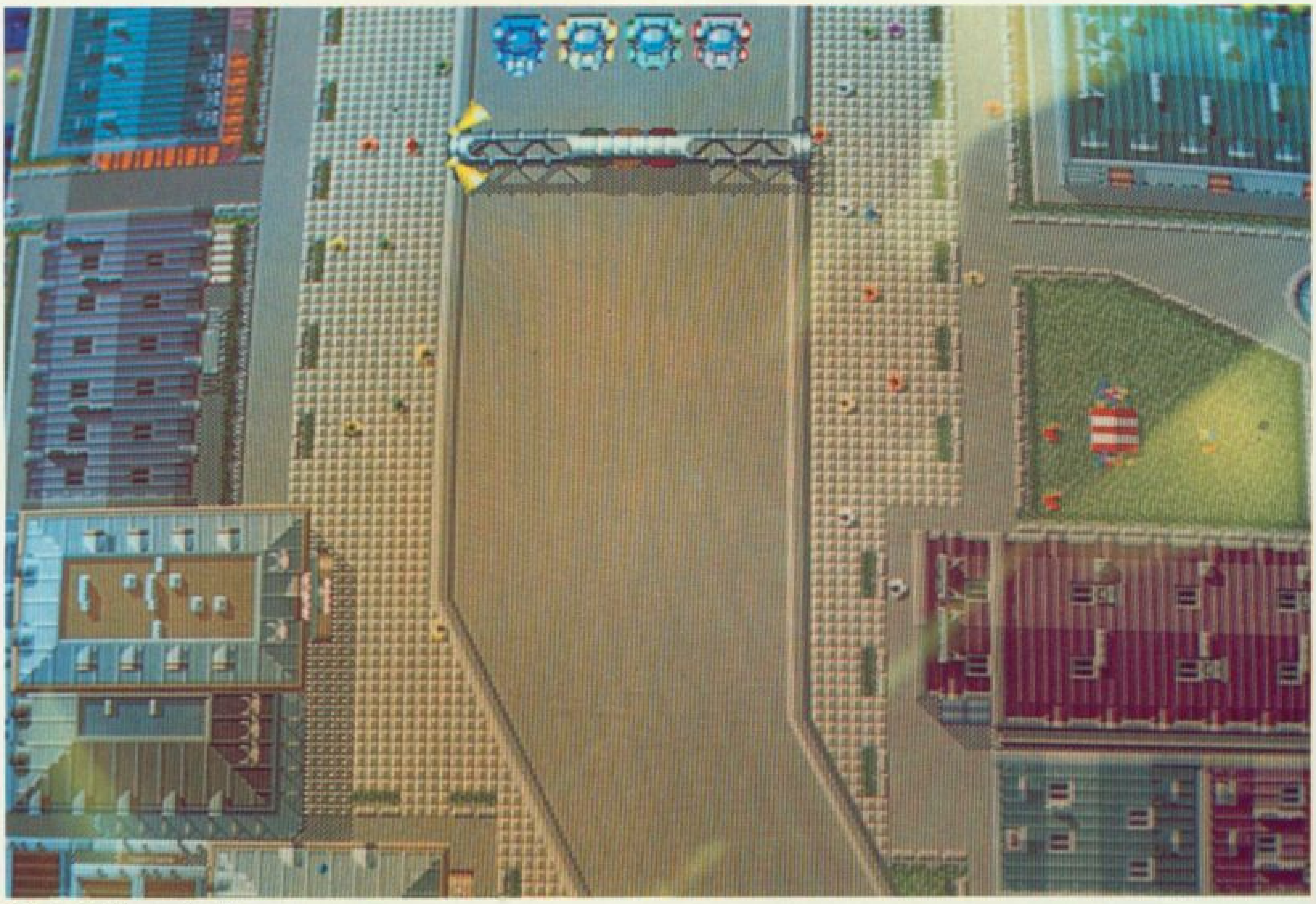
HOT ROD

Sega 20p

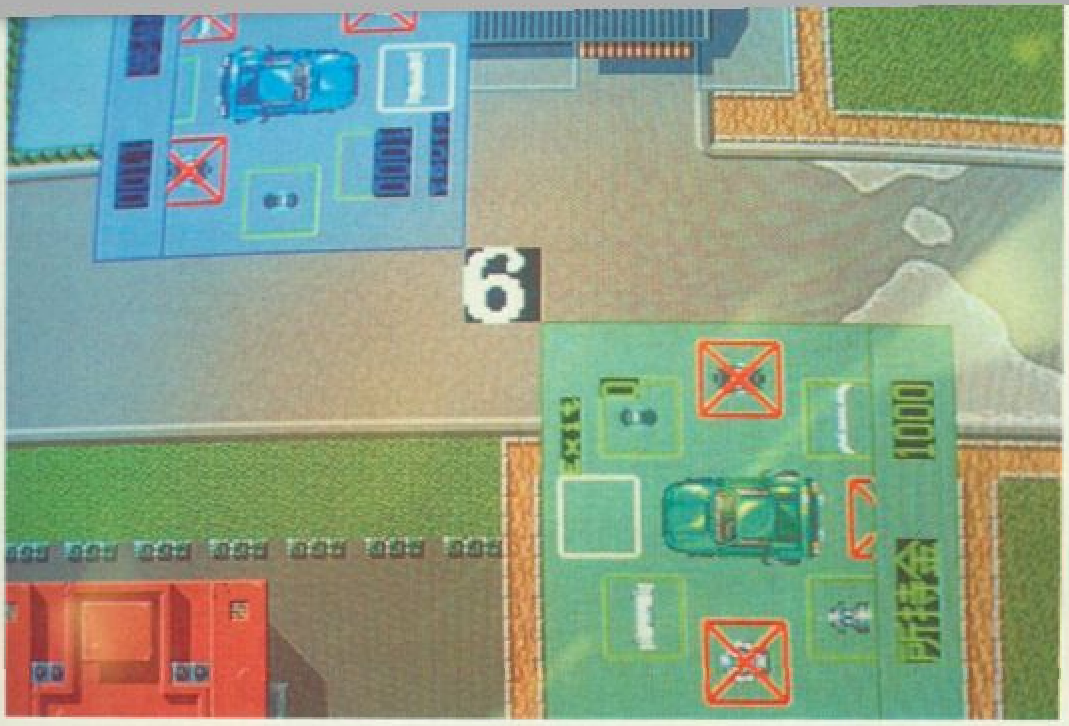
If it's four-player car driving fun you're after then you'll be thrilled with Sega's answer to Atari's *Super Sprint*. The game's viewed from above with the monitor sitting in the centre of the box-like console and the music and sound effects blaring into your ears from overhead (see picture). Each player gets to control an on-screen buggy and guide it through several continually scrolling courses. You've got standard controls – steering wheel, accelerator and hi and lo gears. The idea is not simply to make it to the end of the course but to collect points (drive over small P symbols) on the way and then trade your points for add-ons that will help you on the next course. As well as picking up points you'll want to pick up Gas symbols because you start the game with limited fuel and if you run out during a race you're in big trouble.

How you spend your accumulated points is crucial. Do you want to go for a set of bumpers that will strengthen your car body? Do you want wide tyres for better manoeuvrability? Or would you rather have a set of wings for better traction? Bear in mind that some things may be useful for one course (wings for the desert courses) but may also hinder you on another track – and you don't want to get left behind, because if the screen should scroll on and you reach the border your car is thrown forward to join the others at heavy cost to your fuel. The game's not difficult to play and with four people all going at once it can be terrific fun – don't get any sneaky ideas of running your chums off the roads, though – the cars just drive harmlessly over each other.

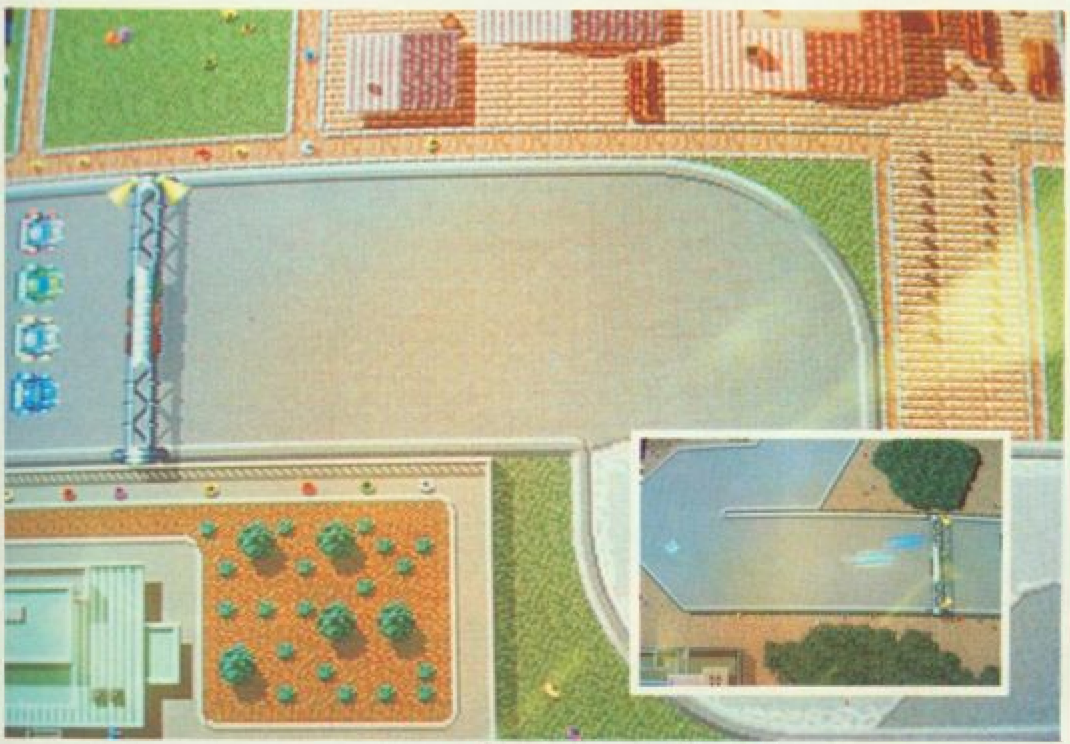
4WD!



At the start of a downward scrolling course.



Blue doesn't know whether to go for those wings or not. He's only got six seconds left to decide though.



He decided to save his points for the next race – that's if he survives this one. INSET – Blue and Green both go for the points symbol (yes, Green got there first and went on to collect all the rest).

TAITO'S CONTINENTAL CIRCUS

Out Run had bags of it. *Afterburner* simply oozed it. *Alien Syndrome* didn't want for it. Most authorities agree it's one of the most important ingredients of the winning coin-op formula. Taito's *Continental Circus,* however, has none of it. But if the crowds around the machine in a top London arcade are any sort of yardstick, *Continental Circus* looks to be another sure-fire hit for the Japanese giants.

This magic ingredient the others have and *Continental Circus* lacks is 'over the shoulder' appeal. You know the sort of thing – you see someone in an arcade playing what looks to be a fantastic game and, naturally, you want a piece of that action as soon as possible. Once you've fed the machine and started playing it's not long before you notice someone looking over your shoulder just waiting for their turn.

Continental Circus breaks all the rules. To watch somebody playing the game is not merely confusing, it can almost give you a headache. Why? Because it's a 3-D game. A viewscreen is held in front of the angled monitor on the upright cabinet by an arm attached to either side. Whoever's playing positions the viewscreen and peers through it to watch himself tear around a number of Grand Prix circuits in three stunning dimensions. You've got a time limit to beat for each circuit and bumping into other cars usually provokes your engine into pouring out smoke and losing power – pull into the nearest pit and your pit crew will extinguish the flames and you can rejoin the race. You'll have to make up that lost time though if you wish to qualify and make it to the Japanese G.P. It's a great car driving game and any self-respecting fan of the genre will want to check it out ASAP. Don't hold your breath for home micro conversions though!

SHAKE A LEG

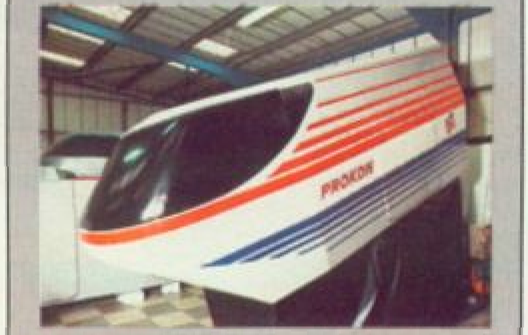
Following our report some time ago (in ACE issue 6) on the Super X simulator, our intrepid reporter Pete Connor has now been to the company's HQ to try out the system.

The Prokon simulator is a jumbo-sized 14-seater, which tilts and rolls on micro-processor controlled hydraulics, synchronised to a high-quality 6 x 4 video display with loud stereo sound. There's a range of different rides available, from motor-bike races through to aircraft carrier simulations.

After his aerobatic high jinks with Microprose, PC thought that nothing could shake him up. But he was wrong; Super X's Prokon simulator is a very realistic ride indeed. Pete sampled the Isle of Man car rally, and found himself being thrown around the capsule with each gearchange. It really is just like being inside the car.

The Prokon's a pretty bulky object (it does seat 14 people) so it's a little on the large side to fit in your local arcade or chip shop, but Super X have a two-seater version well under way, which is more than likely to find its way to a fun palace near you.

'At the moment, there's no interactive element to the ride; but what you get is so realistic and thrilling that your lack of control doesn't bother you. If you get a chance, climb on board and take a ride...

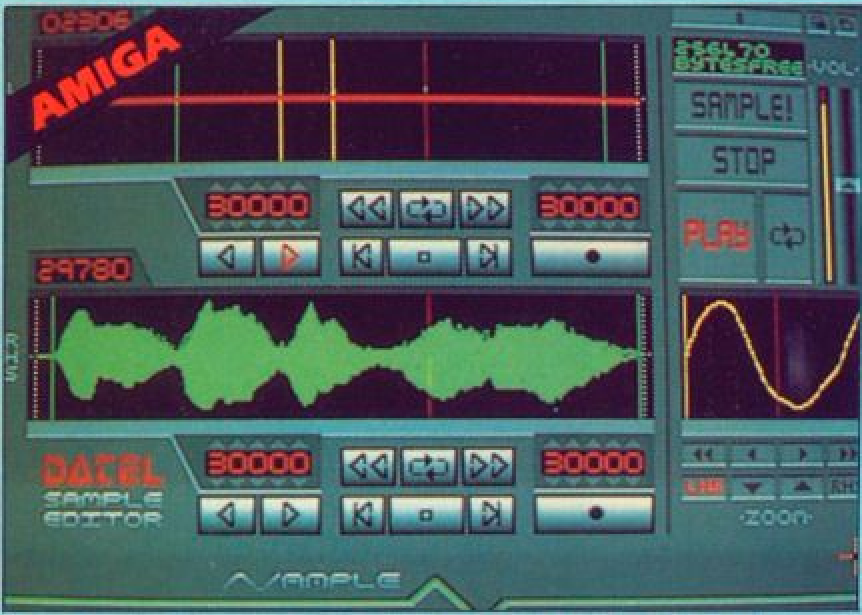


The Prokon capsule, with shrouded hydraulics (very hush hush, you know). The interior is in airline style, with the punters sitting on three comfy padded benches.

DEAD ANGLE

A game with plenty of 'over the shoulder' appeal is this *Prohibition*-type game. Like the recent spate of boxing games, the player's character is shown in the centre of the screen in outline. You guide a sight around the screen with a joystick and try to shoot as many gangsters as possible. Shooting gangsters dressed in red has the added bonus of causing a more powerful weapon to appear on the screen – and a machine gun or grenade can come in very handy at times. If you want your reactions severely tested, check this one out.

DATEL ELECTRONICS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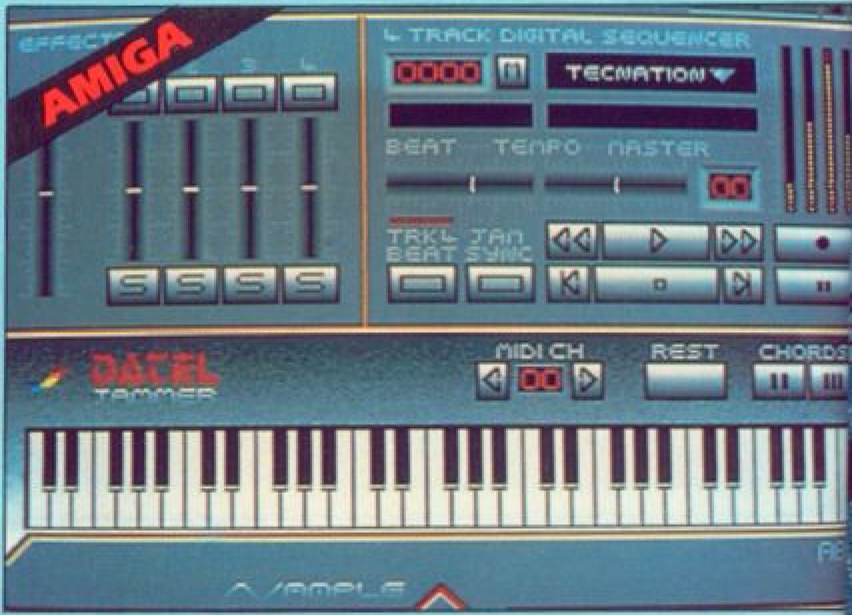
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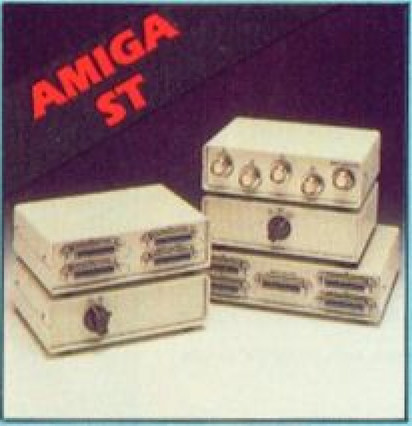

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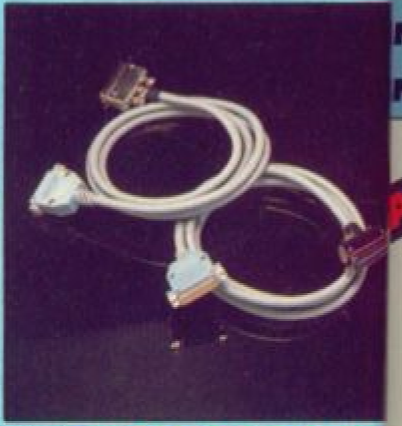

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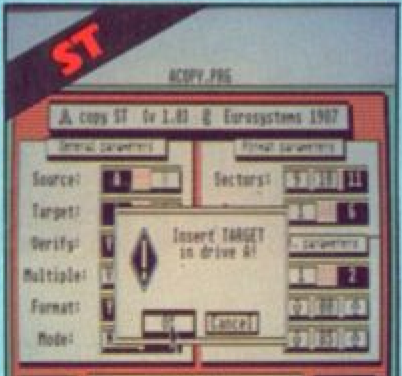
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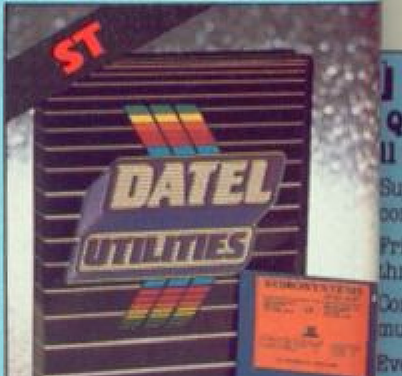
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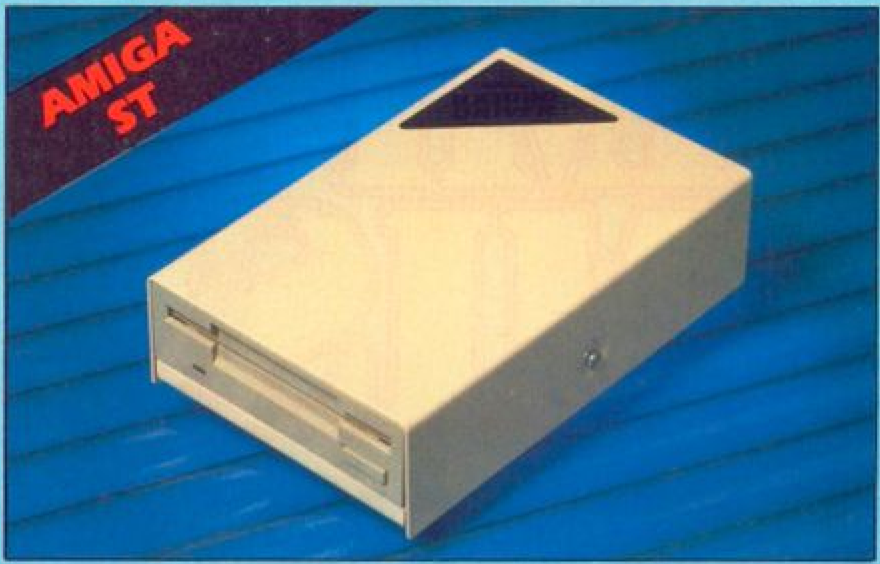

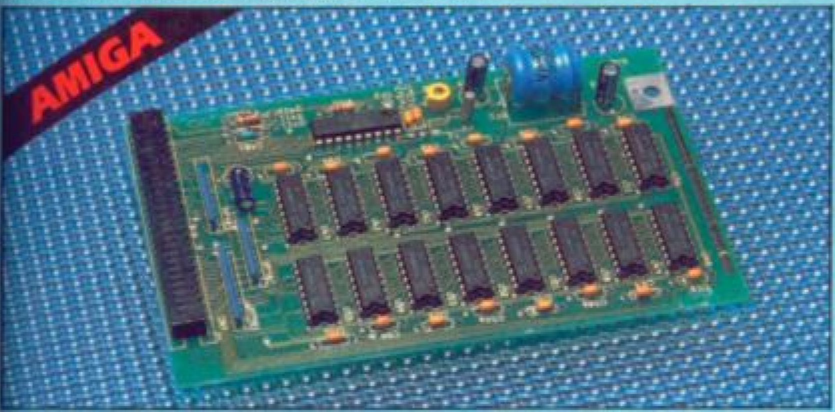

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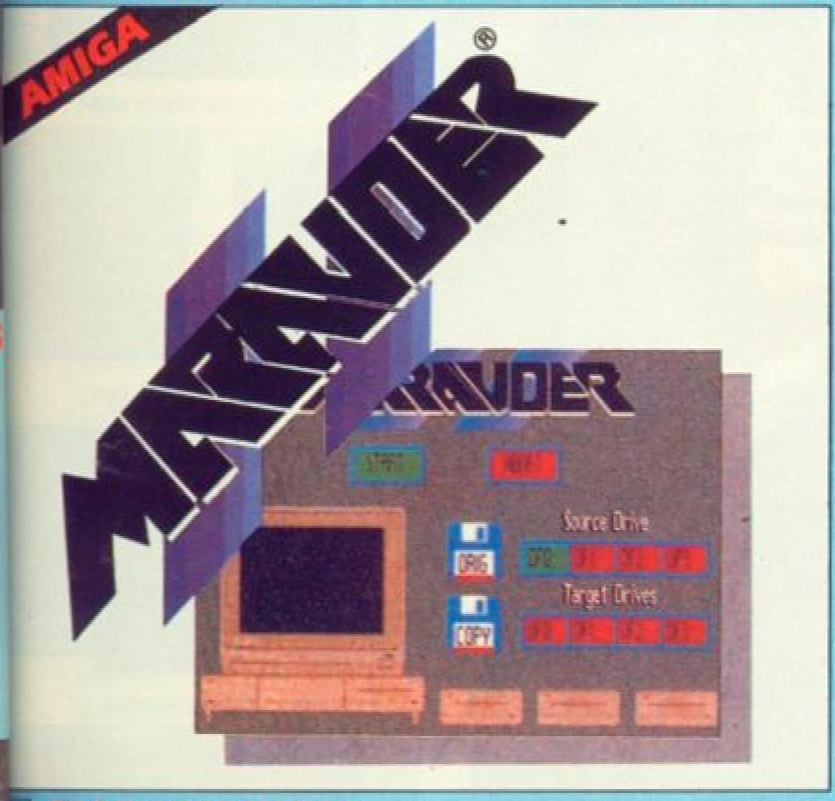

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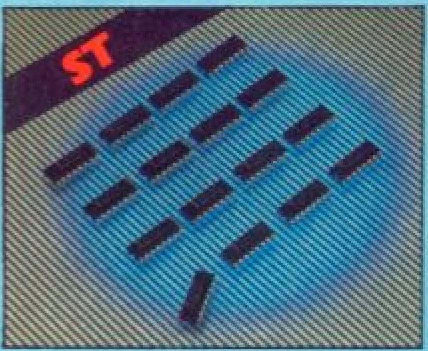

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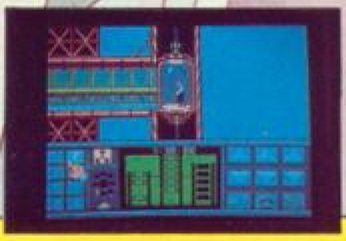
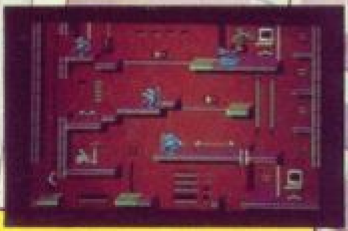
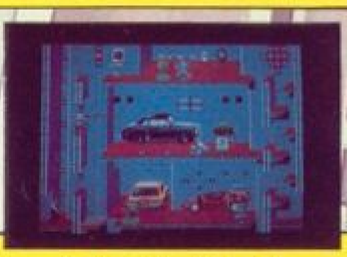
Successfully dispose of Elvin and your quest is half over! Now your Mission becomes truly Impossible as you strive to escape the towers, avoiding guards, robots, mines, trap doors and elevators without detection!



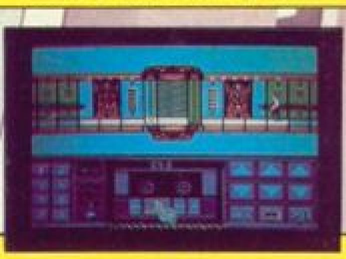
...From the lift you enter the first room...



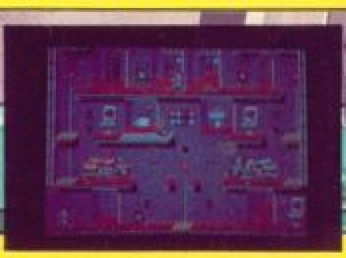
...But where to next?...



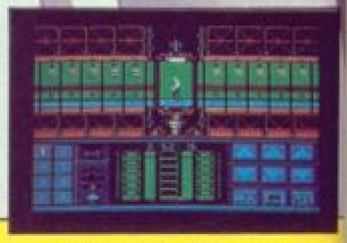
...Who or what is lurking behind these cars?...



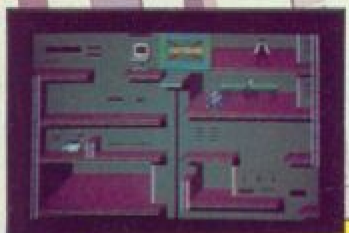
...Can you access the next tower?...



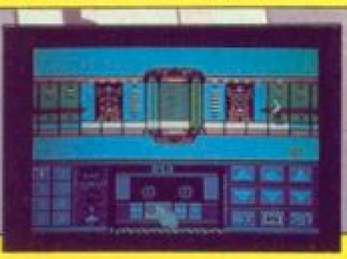
...Could the final P.I.N. number be here?...



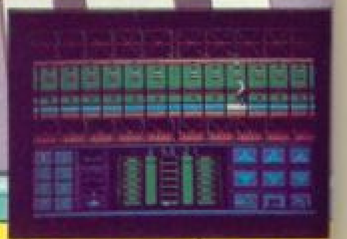
...Running into more trouble?...



...Why is the robot guarding that table?...



...A message on the tape recorder?...



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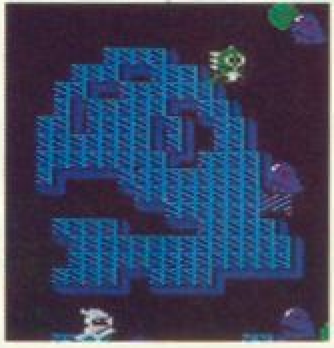
EPYX

LICENCE TO THRILL?

Or a licence to print money? Films, coin-ops, TV progs, books, toys, dolls, bodies...you name it, someone's licensed it and turned it into a computer game. The chances are that at some time or another, you've bought one of them. But were you happy with it? And just how did that favourite film of yours happen to get turned in to micro game? Read on for all the answers...

It all began back in 1983, Britain's computer game boomtime. In those days nobody paid anybody else money to use an idea or a character; you just did your game and damned the consequences. So it was that umpteen versions of the coin-op *Galaxians* appeared, often with such inventive names as *Galaksians* or *Galaxions*...although some producers got warned off, nobody was actually sued for breach of copyright.

Then along came Ocean, who produced what was probably the first official signed, sealed and delivered licence – *Hunchback*. The game was an enormous success, and other publishers realised that even paying good cash to someone for a game's name and ideas you could still make money.


Bubble Bobble: one of the best coin-op conversions

Ocean didn't sit around a table and invent the concept of licensing. Chairman David Ward points out that licensing is a big business that every manufacturer of consumer goods is aware of. But while the whole concept 'just emerged', he does believe that Ocean 'invented most of the benchmarks' that govern how licensing in the games software industry works.

And when someone says that licensing is big business, you'd better believe it – the whole thing is worth about £300,000,000 in the UK alone. In fact, computer software is pretty small potatoes in that figure; it accounts for about 3.5% of the market, or around £10,000,000.

OUT OF THE ARCADES

Of course the whole idea of licensing for computer games really started with coin-ops. If people were prepared to spend small fortunes on *Space Invaders* and *Defender* down at the arcades, why not give them the same thing on their home micros?

Give it to them they did, in spades and with knobs on. And not just the biggest games – for every game you could see down at the arcade, you could bet there'd be half a dozen clones around for micros.

One of the most popular games of that almost prehistoric epoch was *Donkey Kong*, a sort of platform game in which an overgrown ape stole your girlfriend. No fewer than 11 different versions of this game appeared within a few months of each other – none of them, to the best of our knowledge, having paid any money to the manufacturers for the rights to use the game's scenario or characters.

As the micro market boomed, the coin-op boys realised that there was money to be made from enforcing the rights to their intellectual" property. Various games houses (most of them no longer in business) were threatened with legal action if they produced games with the same title or 'look and feel' as the coin-ops.

The situation was ripe for regularisation, as the games industry became more mature and companies such as Ocean and US Gold displayed a more sophisticated approach to marketing their products.

Thor Warrior
Questor Elf
Thyra Valkyrie
U.S. GOLD
Merlin Wizard

Gauntlet: huge in the arcades and just as big at home.

Coin-op games are now the single biggest source of licences for the micro games industry, and also the single most expensive, and lucrative, source: Go! have recently signed a deal with Capcom which, it is claimed, should generate £2 million income for them over the next year; *Out Run* is believed to have sold over 250,000 copies at Christmas; *Gauntlet* is an all-time best seller; Ocean's Konami titles have been big sellers over the years.

LICENSING REPORTER

MONTHLY BULLETIN OF CHARACTER MERCHANDISING AND LICENSING

Inside this issue:

Hamburg office opens for business

Copyrights move into Europe

In brief

Licensing Reporter: the industry organ you've just got to read if you want to snap up the rights to those hot properties.

Coin-op licences don't come cheap (see **Serious Money** box) but there are problems as well as money involved, namely competition from other software houses and doing business with Japan. Since a huge arcade success can very often translate in to a huge micro success, companies are naturally anxious to get their hands on the latest hot property – which, equally naturally, leads the original manufacturers to raise prices through the roof. Some big companies involved in licensing coin-ops have been heard to complain about others paying 'silly prices'.

Once a company has reached an agreement, there's still a long way to go. Most coin-op giants are Japanese, and Japan's a strange country a long way away, with a very different culture and language. As Herbert Wright, now of Logotron but formerly of Telecomsoft, puts it: 'Doing business with Japan is a slow process. Everything has to go through Tokyo; you've got two to three months of faxes, and you never know when you'll get a reply.'

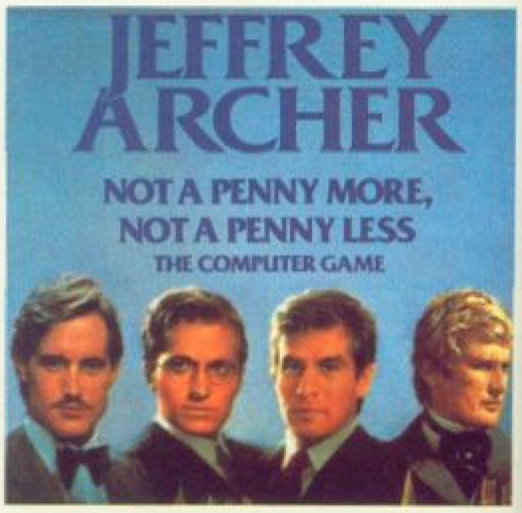
All that' bother – and all that money – means you've got to produce a success, which is why arcade licenses are so heavily promoted (or, in some cases, hyped).

This can sometimes result in the customer feeling a little peeved at what he sees as hastily produced products which produce little of the excitement he found from the coin-op original. But it's all too easy to remember the disappointments – most coin-op licences deliver the goods, as anyone who's played *Bubble Bobble*, *Gauntlet*, *Ikari Warriors* or *Buggy Boy* can testify.

THE BOOK OF THE GAME

Although coin-ops are the obvious and easiest thing to license, it was probably a book – Tolkien's *The Hobbit* – which was the very first licence, way back in 1983.

The adventure game of the book was a huge success (despite some nasty and recurring bugs) and other book licences followed, although not with the regularity of coin-op derived games. Jeffrey Archer's *Not a Penny More Not A Penny Less* earned more than pennies for Domark, James Clavell's *Tai Pan* was released by Ocean, the same author's *Shogun* was a moderate success for Virgin, and one of the biggest book-into-



ENDORSEMENTS

One of the most controversial developments in games licensing over the past couple of years has been the body endorsement. The formula dictates that you find a Page 3 Girl, stick her body on the packaging and advertising and then get thousands of sex-starved teenage boys to buy it.

Martech are the trailblazers in this respect; they it was who amazed the games-buying public by producing *Sam Fox's Strip Poker*, back in the days when the gorgeous, pouting etc. was in her prime. Rather than a cynical plan, Martech's David Martin says this was a happy conjunction of events: 'We had the software first and we were looking for the commercial angle. It worked.' But what about the controversy? 'We had not one single letter of complaint', he says.

The formula was then refined by Palace software with their combat game *Barbarian*. This time Maria Whittaker was the gorgeous, pouting etc. But there was no digitised Maria in the game; she did her bit on the adverts, buxomly mastering a muscled warrior. The game – an above-average chop and slash job – sold like hot cakes.

Not to be outdone, Martech have bounced back with another gorgeous, pouting etc. from everybody's favourite Page 3; Yes! Corinne Russell *is* the *Vixen*! As with *Barbarian*, much is made of Corinne's body – leopardskin-clad and brandishing a bull whip – on the packaging and advertising.

Endorsement isn't, of course, confined exclusively to young women. If Chuck Yeager can endorse a flight trainer for EA, and Daley Thomson can do his bit for Ocean, then why should not Eddie Edwards (the most successful failure in history?) lend his name to Loriciels' skiing program? Now that's what we call an endorsement with real style.

BOARD GAMES

In the beginning was Leisure Genius, and Leisure Genius begat *Scrabble*, and *Scrabble* was a damn good game and begat lots of money. And everybody was amazed that more board games were not available on micro. Well, they didn't have to wait very long; Leisure Genius (bought up by Virgin) followed up with a whole range of licences from board game best-sellers – *Monopoly, Cluedo, Diplomacy*.

Virgin's Patricia Mitchell says that to be turned into a computer game, a board game must be 'well known, a household name, or very newsworthy. It must be viable here, in the United States and in Europe. And it must be suitable for conversion to the computer.' *Scrabble*, she says, was 'absolutely perfect' for conversion, while *Scruples* was a trickier job altogether.

Successful board game conversions are the sort of thing companies like to have in their catalogues because they are 'excellent sellers and can go on for years' – unlike most coin-op games, which enjoy spectacular, but brief, lives.

An interesting development in the board game field is Gremlin's *Gary Lineker* game. In this case Gremlin bought an endorsement from Britain's best striker; around that name they produced both an original micro game and, launched at the same time, an original board game. Both were aimed at soccer-mad boys who were likely to be interested in one if they were interested in the other. We can expect to see more multiple launches in this mould in the future.

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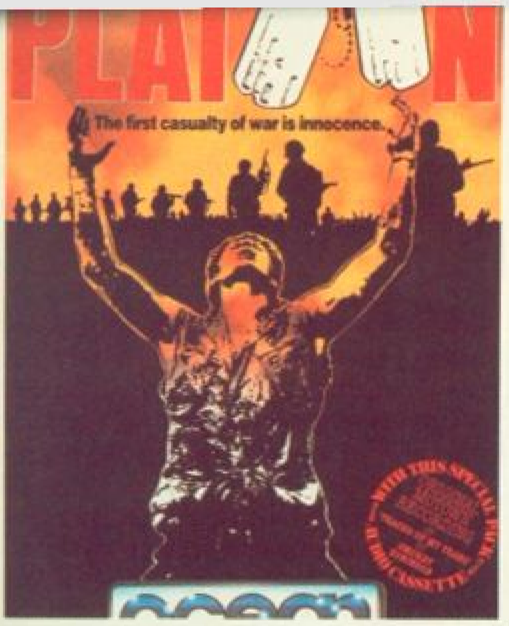
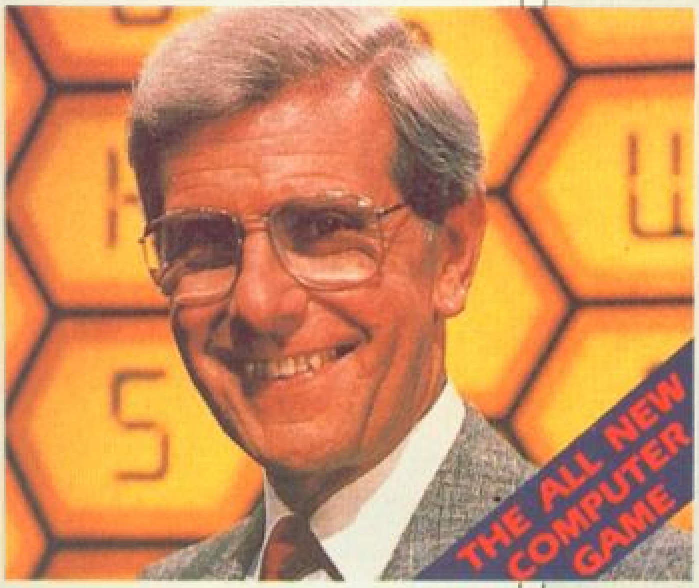

PLATOON
The first casualty of war is innocence.
WITH THIS SPECIAL PACK AUDIO CASSETTE
ocean

game licences was Douglas Adams' *Hitchhiker's Guide*, from Infocom.

But books have never made the really big time as licences – not even *The Diary of Adrian Mole* – and they seem unlikely to ever do so: after all, the pleasure of rreeaading iss immensley different to the fun you get playing a game.

THE MOTION PICTURE

It's becoming fashionable to comment on how similar the games business is getting to the film industry – 'a new Hollywood', and all that jazz. Certainly, software production now seems to require teams of designers, coders, musicians et al that are approaching film sizes.


THE ALL NEW COMPUTER GAME

No surprise, then, that films are the second biggest source of licences after coin-ops. Any big film – and not necessarily those that can be seen by a teenager – is now more than likely to be licensed for a game. And if it's a film that's already itself based on another form of entertainment – such as a toy or a comic strip – then there has to be something very strange going on if it *doesn't* become a game.

The first really big film licence was *Ghostbusters*, produced by Activision for Christmas 1984 and an immediate and huge success. *Ghostbusters* is still one of the best film-into-game jobs; it managed to retain something of the wacky spirit of the film, while still being a game you could really get in to. And it's *still* making money; now available for a mere £1.99, it's back at the top of the charts.

Ocean's David Ward says that what his company is trying to do with films is to 'cre-

SERIOUS MONEY

So how much have you got to lay out for a decent licence? It needn't always be a fortune; rumour has it that the *Judge Dredd* computer game licence went for a mere £1000 – but that was a few years ago, and times have changed a bit since then.

For a big film or coin-op licence, we are talking serious money. US Gold's *Out Run* licence is reputed to have cost £200,000 or more, while Tim Massey of Movie and Media Marketing has 'a big film' available at £250,000 for the world rights. On the other hand, it's said that Domark got their Bond licence for as little as £20,000.

Of course, these figures are rarely upfront payments; a guarantee against sales is the usual procedure. But if a company doesn't sell the minimum agreed figure they could find themselves with a lot of tapes on their hands but a lot of cash to find.

THE TELLY

Every week getting on for half the population watches one soap opera or another. Millions watch several of them, while some seem to spend most of their waking lives following their favourite characters' business. Given the popularity of the telly the only surprise is that it took the games companies so long to get going on TV licences. Once they started though, they kept on coming with a vengeance.

Acknowledged masters of the genre have to be Domark – if only because they bought up the titles already produced by the defunct Macsen. Now Domark are the proud owners of games such as *Bullseye* and *Blockbusters*. Domark's Mark Strachan describes titles like these as 'good bill payers – shops see TV Games as must-stock items. They're not huge sellers, but *Bullseye* – which is six years old – sold over 4000 copies at Christmas.'

Strachan points out that there is a two-stage process in licensing a TV programme; in the first place there is the programme itself, the rights to which are owned by the TV company, and then there is the personality who fronts it. You have to pay separately for the rights to use each one – so if there's a picture of a bull rather than Jim Bowen on the packaging of *Bullseye*, you can perhaps guess why.

Domark are forging ahead with their TV Games labels; this autumn should see the release of *Every Second Counts* (of Paul Daniels fame) and *Bob's Full House*, with that old favourite Bob Monkhouse. Other companies too are interested in the telly as a source of games – this autumn we can expect a micro version of *A Question of Sport*. It's not clear as yet which games house has acquired the rights to the program; interestingly it's one for which Domark 'pitched and lost'. Mark Strachan is intrigued by the outcome: 'It's interesting because it all depends on that 'what happens next?'. How are they going to put that on a micro?'

WHERE DO LICENCES COME FROM?

You don't just phone up Paramount and ask for a licence to turn *Robocop* into a computer game. Everything in the world of licensing works through agents, of whom there about 20 significant ones operating in this country. Out of these, perhaps half a dozen are active in the field of licensing to software houses.

One of the most active is Movie and Media Marketing, who have been responsible for licensing such bestsellers as *Rambo*, *Top Gun*, *Platoon* and *Robocop*. The company's Tim Massey spoke to ACE about the licensing world from his point of view.

An agency such as his own, says Tim, is 'looking to a company to produce the best game to fit the character, but the game has to be strong enough in its own right'. In other words, you'd have to persuade them you were actually going to produce a decent game rather than a couple of hundred lines of Basic.

But would the agency have already sold the property to someone else? Not necessarily; agents do approach companies, but, says Tim 'we don't believe in the shotgun approach, rather in establishing good working relationships.'

Tim Massey doesn't see the proportion of licensed games getting much larger; 'there isn't the product to increase it', he believes.

The future, he thinks is more likely to lie in the areas of music and enhanced home technology such as CDI. 'For example', he says, 'U2 have a movie coming out later this year. They're the world's biggest band. How do you make a game out of it? I don't know, but if someone can come up with a scenario....' Such a scenario might be easier to develop if the producers had a more interactive technology, such as CDI, to play around with.

ate a new dimension', and the example he offers in support of this is *Platoon*, which was something of a departure from the simple blasting of a previous licence, *Rambo*. In order to add that new dimension he believes it is necessary for companies to have a sophisticated 'software infrastructure' – designers, storyboarders, engineers, coders, musicians.

WHERE TO NOW?

So how will games licensing develop over the next few years? Most people in a position to make some difference seem to believe that things will stay much as they are for the time being. Licences sell games, and selling games is what the software houses are in business to do.

An encouraging sign, though, is that the software houses are thinking much more carefully about what they can do with a licence; they're even ready to admit to past mistakes. Ocean went so far – at the launch of *Platoon* – as to announce they were cutting down on the quantity of releases in order to improve the quality.

The growing band of 16-bit owners also suggest that the games license may have to change in character over the next few years. 16-bit owners tend to be older than 8-bit owners, and are not likely to spend much time playing with toys or watching Breakfast TV cartoons; the chances are they will want more sophisticated games, and if companies are to provide them then more sophisticated licensing deals could be on the cards. ●

LICENCES: SOME HITS AND MISSES

HITS

Batman

This superb 3D isometric arcade adventure took the caped crusader's name and figure and presented him with some terrific puzzling. In the hands of a lesser programmer than Jon Ritman it could have been a disaster, but Ocean really came up with the goods on this one.

Batman: one of the great licences.

Bubble Bobble

This is a coin-op conversion that gave great playability and value; the micro versions, even down to the humble Speccy, provided nearly 100% of the coin-op fun – with none of that 'shove another 10p in' nonsense.

Ghostbusters

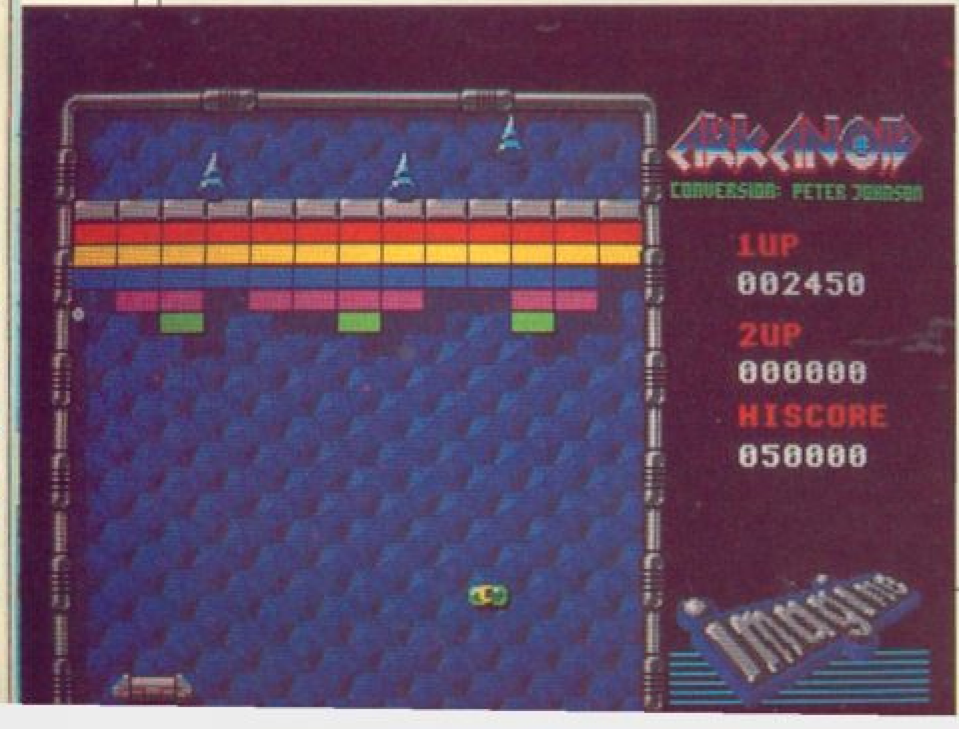
A simple enough game idea, but great fun nevertheless. Its recent success on re-release proves that a game of the film doesn't have to coincide with the movie release to be successful.

Platoon

A brave attempt by Ocean to do something a bit more sophisticated with a film licence. The temptation was to go for another shoot-em-up, *Rambo*-style, but this was resisted and *Platoon* ended up as a much more thoughtful product. And an attractive bonus was the Smokey Robinson song on the other side of the tape.

Arkanoid

A coin-op that could have been designed with the micro rights in mind; it converted superbly and was every bit as playable.

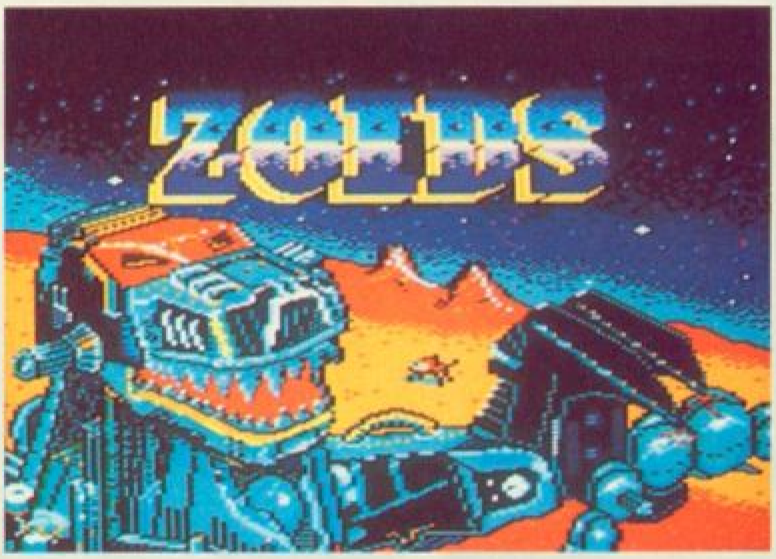


Zoids

A complex mix of strategy and action – and still the best toy licence.

Airwolf

One of the best conversions of a TV programme; the game had a clever design, good graphics, fiendish problems and great addictiveness.



Zoids: the best ever game of the toy married strategy with action.

MISSES

Out Run (8-bit versions)

The biggest game of last Christmas was a bitter disappointment on the 8-bit machines; it bore all the signs of a rush job to get to the shops in time. It was far too easy and gave little sensation of speed. US Gold have remedied these deficiencies on the ST version.

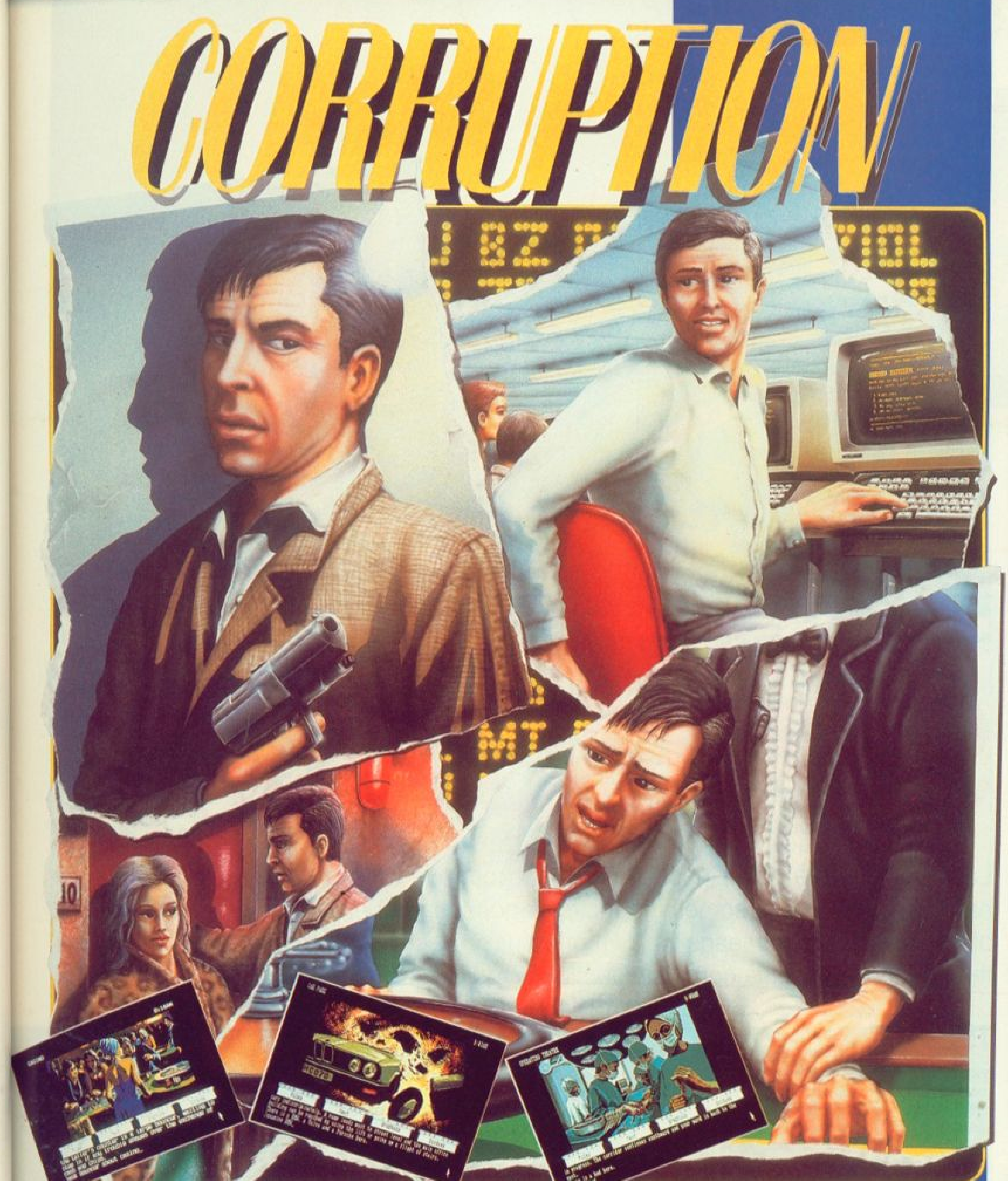
Knight Ryder

Nearly two years late, and not worth the wait; harsh critics say that the demos were more fun than the game.

View To a Kill

The first Bond licence was something of a turkey; poorly designed and programmed, it provided little in the way of fun for the punter. Domark admit they were 'a little naive' with this one.

Out Run: huge seller, but a weak on the 8-bit machines.



Atari ST screen shots.

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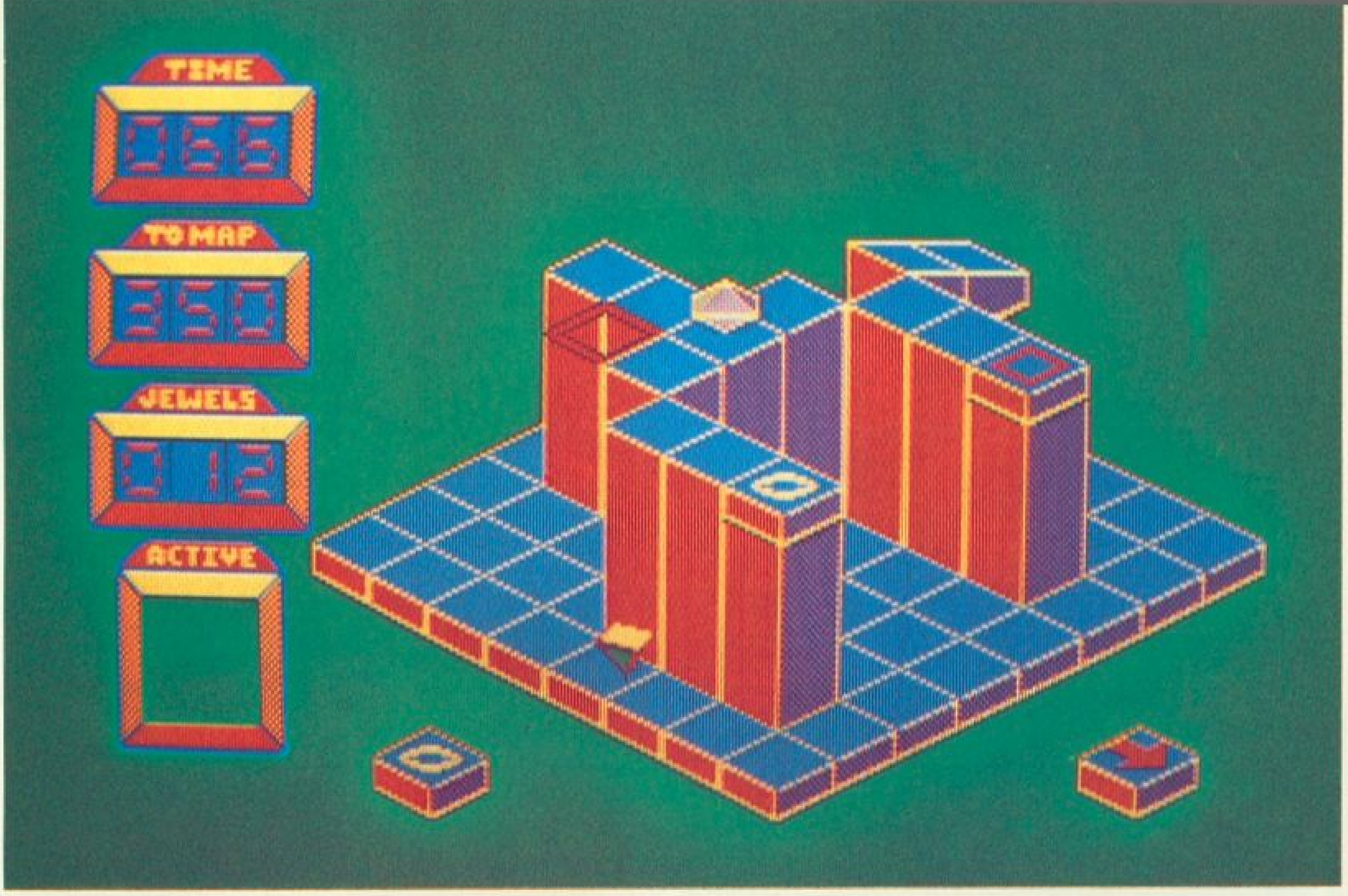

There's a jewel on top of those pillars. But how are you going to get up there?

SPINDIZZY

Last month's free cover cassette was so good we've had to rack our brains extra hard to come up with something that's as good, if not better, to give away. The result of our deliberations means we can offer lucky Spectrum, Amstrad and C64 owners the chance to own the complete version of the magnificent *Spindizzy*.

THE PLOT...

The game was originally released at full price by Electric Dreams and became an instant success. For those of you who are new to the world of computer entertainment and possibly haven't heard of *Spindizzy* before, there now follows an introduction to the game.

A new dimension has been discovered which contains a strange, artificial world hanging in space. As Trainee Assistant Cartographer for Unknown Worlds, the job of mapping the strange place has fallen to you. The Remote Scout Craft you are given is an old-fashioned Geographic Environmental Reconnaissance Land-Mapping Device, known as GERALD. This craft is expensive to maintain and your time is limited. As the company has far from noble motivations (it's all government-sponsored work, you know), time is money. The more time you spend out there the more money the company can claim. The ship's computer holds the initial radar map of the surface and your task is to explore each area, collecting energy in the form of jewels, for which you'll be rewarded with extra time.

Because the world is hung in space, falling off is not a good idea. Should you lose or destroy your craft it will be re-created and beamed back to the last location visited. But this will cause an enormous power drain resulting in the loss of valuable time. So there you have it – do a good job and you'll be well rewarded; fail and well, you don't want to be a Trainee Assistant Cartographer all your life – do you?

IF YOUR CASSETTE IS MISSING

If your free *Spindizzy* cassette is missing from the cover of this issue, just cut out this panel and send it with a stamped SAE marked

SPINDIZZY CASSETTE
to:
ACE, 4 QUEEN STREET
BATH BA1 1EJ

KEY CONTROLS

SPECTRUM KEY CONTROLS

1 Use joystick or direction keys to control GERALD. Pressing FIRE gives extra speed.
2 Pressing the FREEZE key will stop your craft on any frictional surface.
3 Press 'M' to display the map.
4 Press 'S' to display your current score at any time during the game.
5 Pressing 1, 2, 3 and 4 will alter your viewpoint. The compass in the bottom right corner of the screen points North at all times to help with orientation.
6 Press 'P' to pause the game. Whilst paused, the border will flash. Any other key will restart the game.
7 Press 'C' to alter GERALD's shape
8 Press EXTEND MODE or CAPS SHIFT/SYMBOL SHIFT to abort the game.

HOW TO LOAD IT

Side 1 of the cassette has the C64 version followed by the Spectrum version. Side 2 has the Amstrad version.

Spectrum 48/128k
First select 48k Basic and type LOAD "". Hit the 'ENTER' key and press 'PLAY' on your tape deck.

Amstrad
Press 'CTRL' and the small 'ENTER' keys simultaneously. Then follow the on-screen instructions.

Commodore 64
Press 'SHIFT' and 'RUN/STOP' keys simultaneously then press play on your tape deck.

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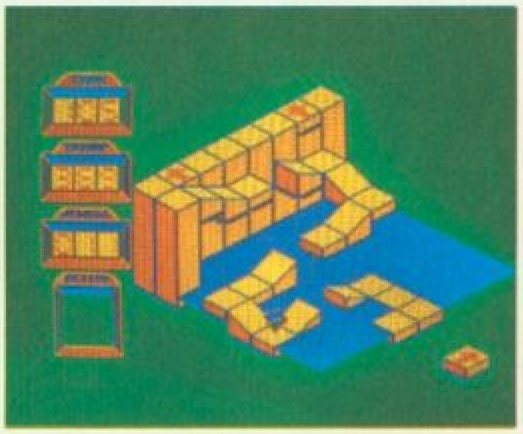
If you encounter any loading difficulty, please first check that you have followed the loading instructions on this page correctly and that your system is able to load other games satisfactorily.

PAUL SHIRLEY

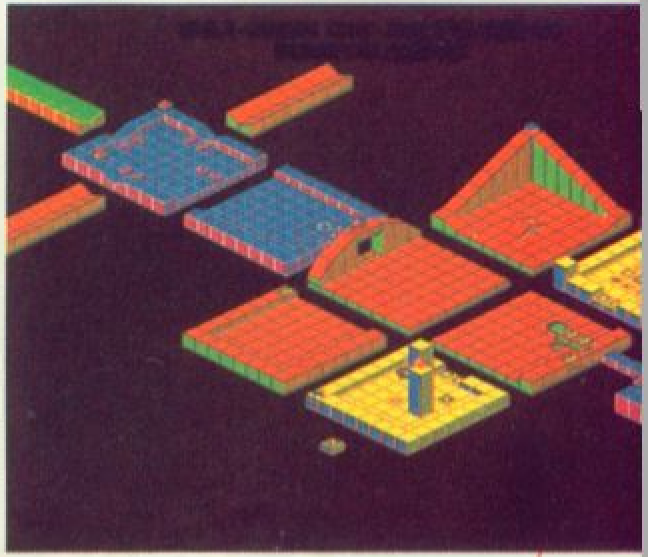
The brains behind *Spindizzy* belong to none other than Paul Shirley. A veteran of the programming world, he first ventured into computer entertainment while he was studying at university by writing games for the Oric when it was THE machine to own. Though these games were good for their time, it wasn't until Paul got hold of an Amstrad 6128 that he wrote *Spindizzy* – arguably his best game to date, but certainly the one he's most famous for.

This all-time classic was some eight months in the making and Paul's not ashamed to admit that the gameplay was, to a certain extent, inspired by *Marble Madness*. The title was inspired by the *Cities in Flight* series of books by sci-fi writer James Blish, in which the Spindizzy is a device that enables whole cities to be lifted from Earth and propelled through space.

Paul's moved on from his Amstrad and now uses an ST to create his games on. Paul's had his ST for a year or so and is highly impressed. He's no fan of the Amiga when it comes to writing games and likens working on one to 'working with a mainframe'. Paul's currently working on an as yet untitled ST shoot-em-up which we're all eagerly awaiting.



A nasty series of jumps poised perilously over the water.



The Beginner's Section, where you can get to grips with the controls.

TRICKS 'N' TACTICS

The handy hints should help you ease yourself into the game.

Due East of the starting screen is a beginner's section. In this area are simple demonstrations of some playing techniques. Time runs slowly in this section, allowing you to experiment.

Some screens will give a clue as to a switch to activate. This will cause some features to appear or disappear. Occasionally two switches may need to be used together. The clue appears in the bottom left corner of the screen.

Lifts may be used but may need switching on first. Ice is slippery and trampolines are bouncy! Make a map – it will help you to find short cuts (of which there are quite a few).

9 Status display.
At the top of the screen. Displays the time left to play, the areas left to visit and the number of jewels collected. Activated switches will appear in the bottom left corner of the screen

AMSTRAD KEY CONTROLS

1 Use the joystick to control GERALD. Pressing FIRE gives extra speed. Alternatively use the keys F1 to F9 on the numeric keypad and the SHIFT key for extra speed.
2 Pressing the SPACE BAR will stop your craft on any frictional surface.
3 Press 'M' to display the map. Unexplored areas are marked in red. Visited areas in yellow. Any area where a jewel has been seen but not collected is marked with a 'J'. Press 'ESC' to return to the game.
4 Press 'S' to display your current score at any time during the game.
5 The cursor arrow keys alter your viewpoint. The compass in the bottom right of the screen points North at all times to help with orientation.
6 Hold the 'SPACE BAR' until your time runs out to abort the mission.
7 Press 'C' to toggle between colour and monochrome display mode.
8 Press 'P' to pause the game. Whilst paused the border will flash. Any other key restarts the game.
9 Press 'I' to alter GERALD's shape.
10 Status display.
On the left side of the screen. Displays the time left to play, the areas left to visit and the number of jewels collected. The box at the bottom shows you which switches are activated.

COMMODORE KEY CONTROLS

1 Use the joystick to control GERALD. Pressing the FIRE button gives extra speed. Pressing the SPACE BAR will stop your craft on any frictional surface.
2 Press 'M' to display the map.
3 Press the arrow key above 'CONTROL' to return to the game.
4 Press 'S' to display your current score at any time during the game.
5 The function keys F1, F3, F6 and F7 will alter your viewpoint. The compass in the bottom right of the screen points North at all times to help with orientation.
6 Hold the SPACE BAR down until your time runs out to abort the mission.
7 Press 'C' to toggle between colour and monochrome display mode.
8 Press 'P' to pause the game. Whilst paused, the border will flash. Any other key will restart the game.
9 Press 'I' to alter GERALD's shape.
10 Status display.
On the left side of the screen. Displays the time left to play, the areas left to visit and the number of jewels collected. The box at the bottom shows you which switches are activated.

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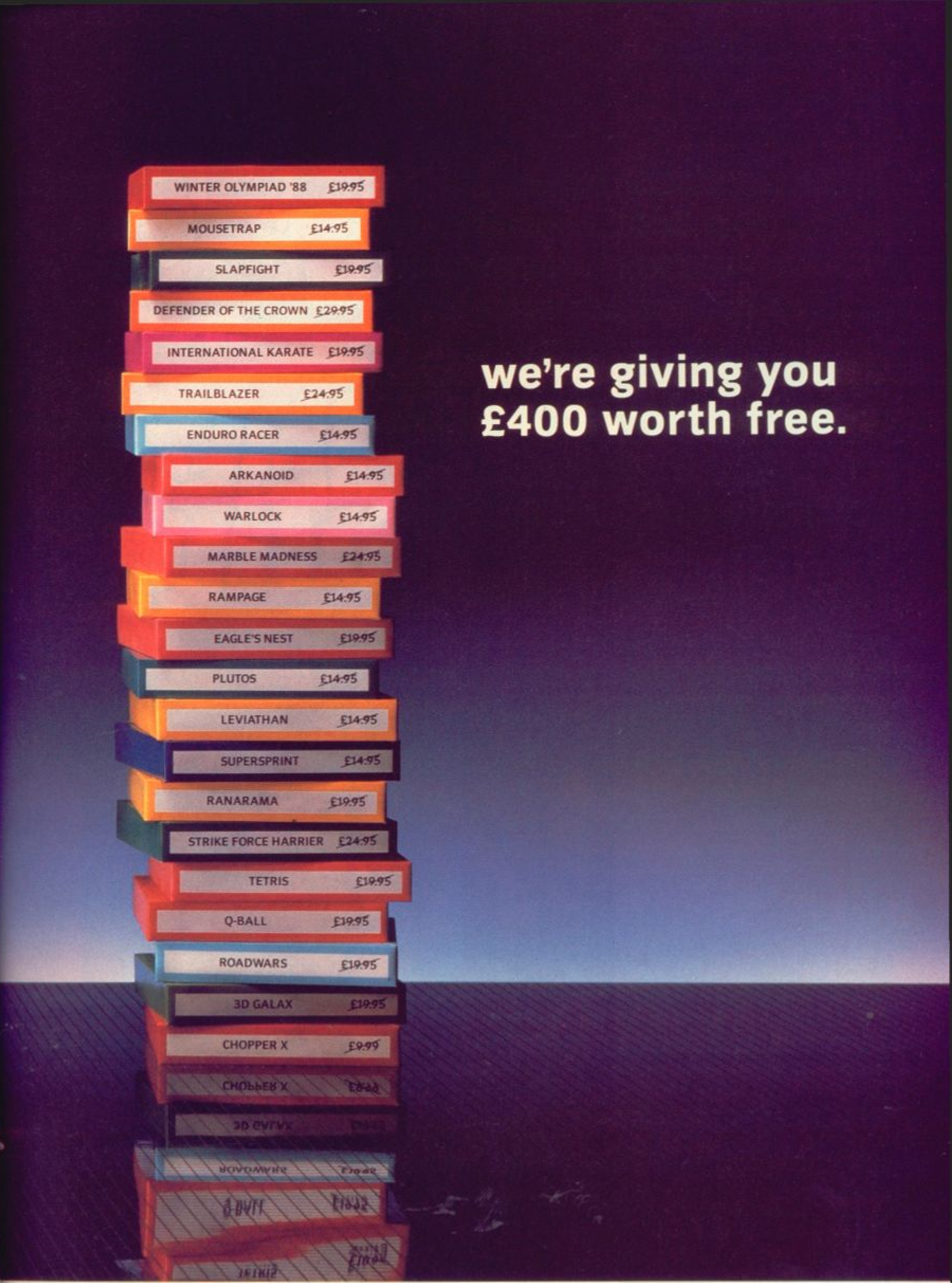
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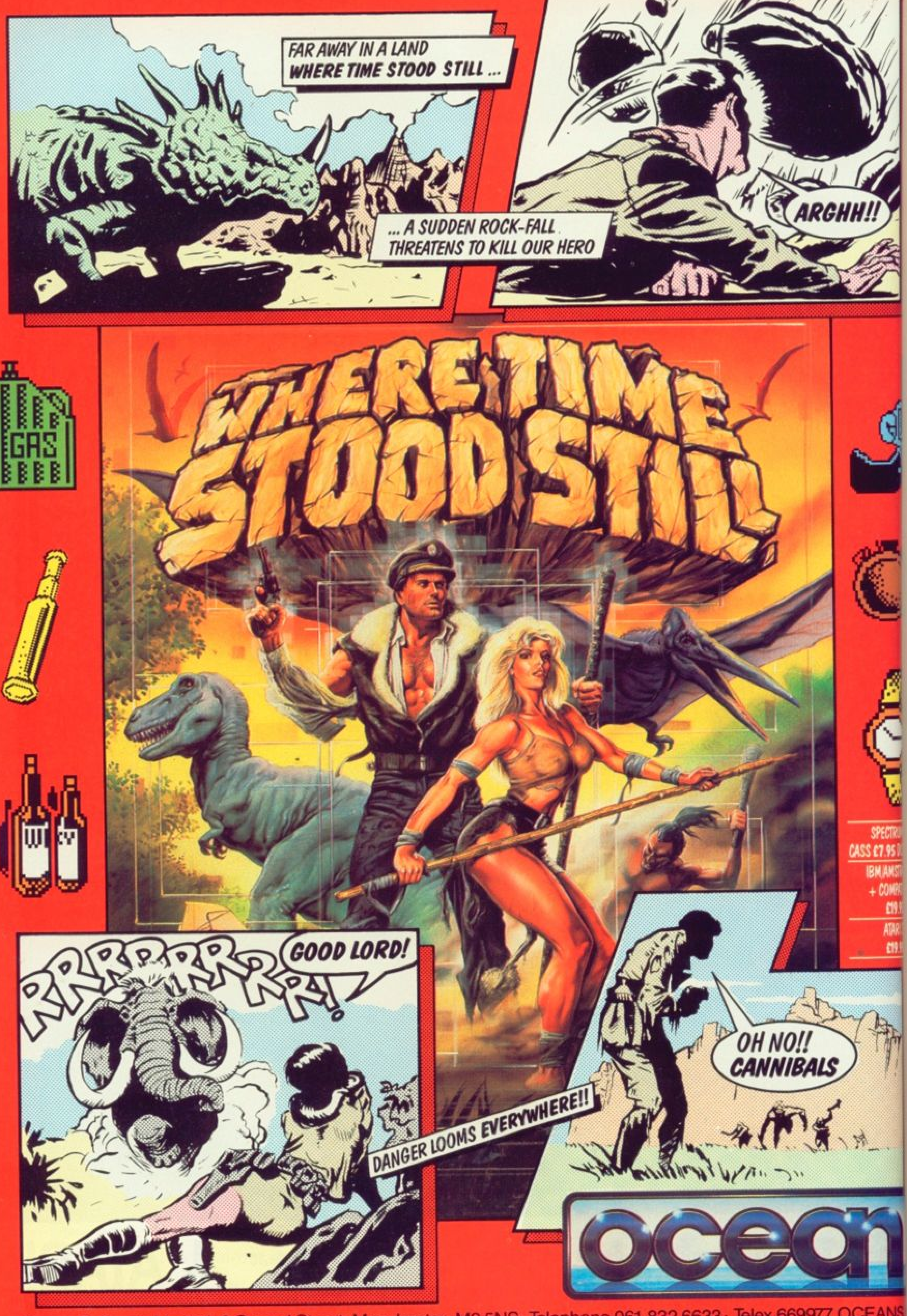
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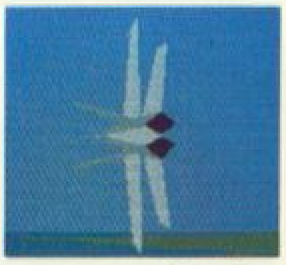

There's one outstanding game this month, the only one our rigorous standards have allowed us to award the coveted 900+ score – ***Interceptor***, from Electronic Arts. It's a program that we raved over when we saw the demos, and that more than fulfilled its promise when the real thing came along. Read the review, admire the pictures, and marvel.

Elsewhere, it's been the month of the nearly 900s; both ***Bionic Commandos*** and ***Leatherneck*** had sterling qualities of playability and fun, but they didn't quite have the complexity or the stamina to make it to the *crème de la crème.* Still rollicking good fun, though.

On the updates front, check out ST ***Out Run*** – it's a massive improvement on the 8-bit versions, and is well worth a test drive.

THE RATINGS

HOW they're calculated...

If you buy a game, how much enjoyment will you get out of it, and for how long? Just check out our revolutionary PIC (Predicted Interest Curve) for the full story. Brilliant arcade games start high on the curve, and then steadily tail off as you lose interest; powerful puzzle games may ride the crest of the curve for months – but the moment you solve them they'll come tumbling down; complex strategy games may stump you at first – but climb up the scale as you begin to appreciate the scope of the gameplay. And as for the turkeys – they start low, stay low, and have nowhere to go but down, down, down.

Once you've seen how long the game can hold your attention, all you need to glance at is the renowned ACE RATING. This is calculated according to the area under the PIC. The bigger it is, the better the game. Add to that our definitive ratings for IQ Factor (will it give your brain cells a work-out?) and Fun Factor – a measure of instant appeal and exhilaration as you dive into the game. And, of course, we rate the Graphics and Audio effects too...for EVERY machine the game's available on.

WHY you can rely on them...

The ACE reviewing team covers a broad spectrum of computer entertainment talent. Andy Wilton knows more about 68000 op codes than many a commercial programmer – but he can also beat the pants off the opposition in *Oids*. Andy Smith doesn't know an op code from an alien, but his years of game-playing experience enable him to pass definitive judgement on anything from sims to shoot-em-ups. Add Steve Cooke (ex-Personal Computer Games and formerly columnist for magazines ranging from Zzap!64 to Your Sinclair) and Pete Connor (ex-Amstrad Action, Personal Computer Games, and Your Computer reviewer) and you've got age and experience as well as youthful enthusiasm.

Every game on the following pages has been seen by all of us. We compare notes, express differing opinions, and only then do we decide who's to take final responsibility for getting our views into print. What follows, then, isn't just a collection of casual comments, but the definitive ACE verdict on this month's software. We've checked it out – now you can too.

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QUADRALIEN

LOGOTRON get smitten by an Astra

STOPPING nuclear reactors melting down is a standard enough gametask, goodness only knows, but with its combination of arcade challenge and dynamic logical puzzling this one at least aims to be different. Logotron have something of a track record as far as the puzzle side of things goes – their excellent *Xor* was 900-rated back in ACE issue 1 – but the arcade market's a much larger pond. How will they fare against the big fish?

The stakes are high, and not just for Logotron: your task is pretty important too, what with Earth's industry on the brink of collapse. The orbiting reactor station Astra has been invaded by the evil Quadraliens, and our factories depend on Astra for their power supply, so you'd better get to work. Decontaminate the reactor's four levels, turf out the Quadraliens and Earth's economy gets back on an even keel: fail and you needn't bother coming back.

Your team for the mission consists of six robots, each with different strengths and weaknesses. For each of the six 'modules' (rooms) on a level you'll have to pick the two robots you think best suited to the particular problems there. The problems in question are made up of Astra's service droids, the rough equivalent of *Xor*'s chickens and fish. The service droids come in two kinds: red ones, which attract each other; and blue ones, which repel each other. The structures they form in the maze-like corridors of each module will typically block your route through to contaminated areas or resources.

Though you can simply blast your way through the packs of droids, this wastes your limited energy. Even with the most laser-efficient of your six robots, a bull-at-a-gate approach won't get you very far. Rather, you'll have to struggle with each structure's physical properties in order to clear a path through. One wrong move can set a disastrous chain of events in motion, so great care is needed.

It's not enough to decontaminate the place efficiently, mind you. The reactor temperature is rising the whole time, and its

ATARI ST VERSION

Sharp graphics, great background music and 19 tough modules make a pretty impressive package all round: One of the brainier, more interesting ST games around.

GRAPHICS 7 **IQ FACTOR** 8
AUDIO 6 **FUN FACTOR** 5

ACE RATING 850

RELEASE BOX

ATARI ST	£19.95dk	OUT NOW
AMIGA	£19.95dk	IMMINENT
IBM PC	£24.95dk	IMMINENT

THE THREE STOOGES

Mirrorsoft's slapstick-em-up

NYUK! Nyuk! Nyuk! The frolicsome threesome have arrived, so get ready to dodge those custard pies and avoid having your eyes poked. Moe, Larry and Curly are on a mission; they've got to earn enough money to save the local orphanage from closing and they've only got 30 days in which to do it.

At the start of each day the player has to decide what the Stooges should do to raise the money. A series of icons are displayed across the top of the screen and a small hand jumps randomly from one to the other. By hitting the fire button when the hand is over a particular icon a sub-game is entered – you've got to be quick to hit the button at the right time though or you could wind up losing a finger in one of the mousetrap icons that are always present. Lose four fingers and it's game over.

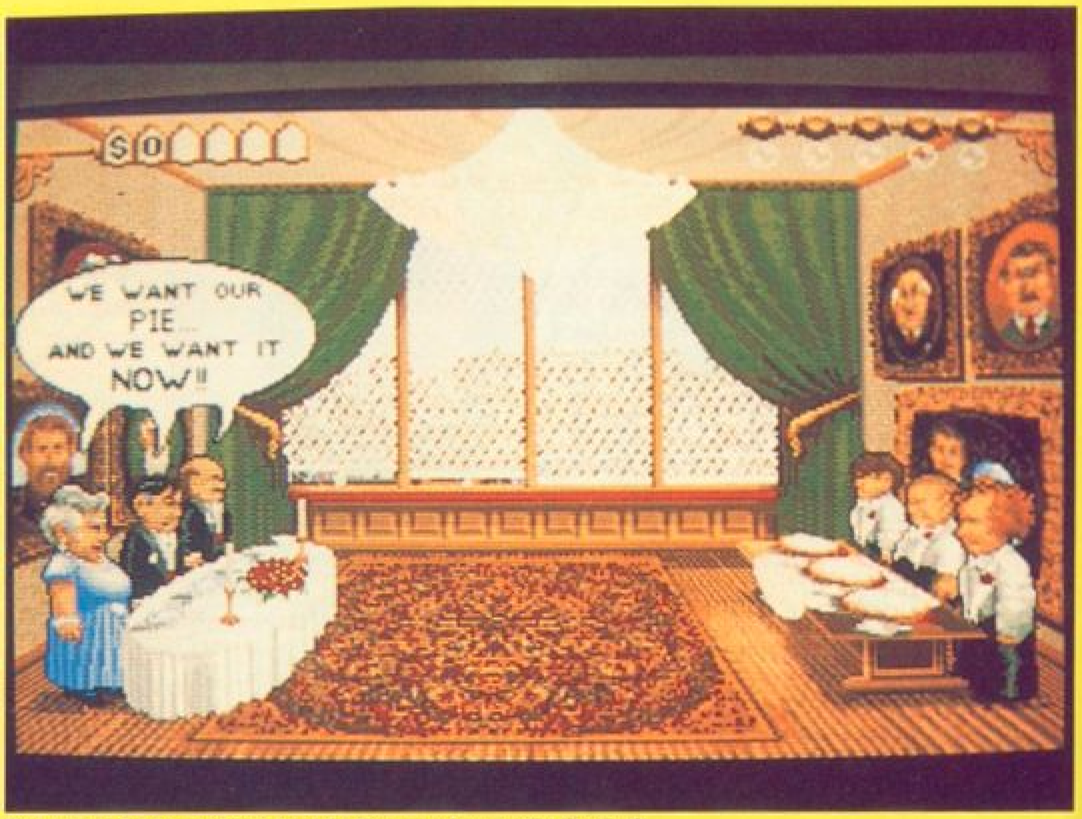
AMIGA VERSION

The game has great graphics and animation and some very atmospheric (and humorous) sound effects, but all that can't hide the fact that it has little gameplay and a task that's far too easy.

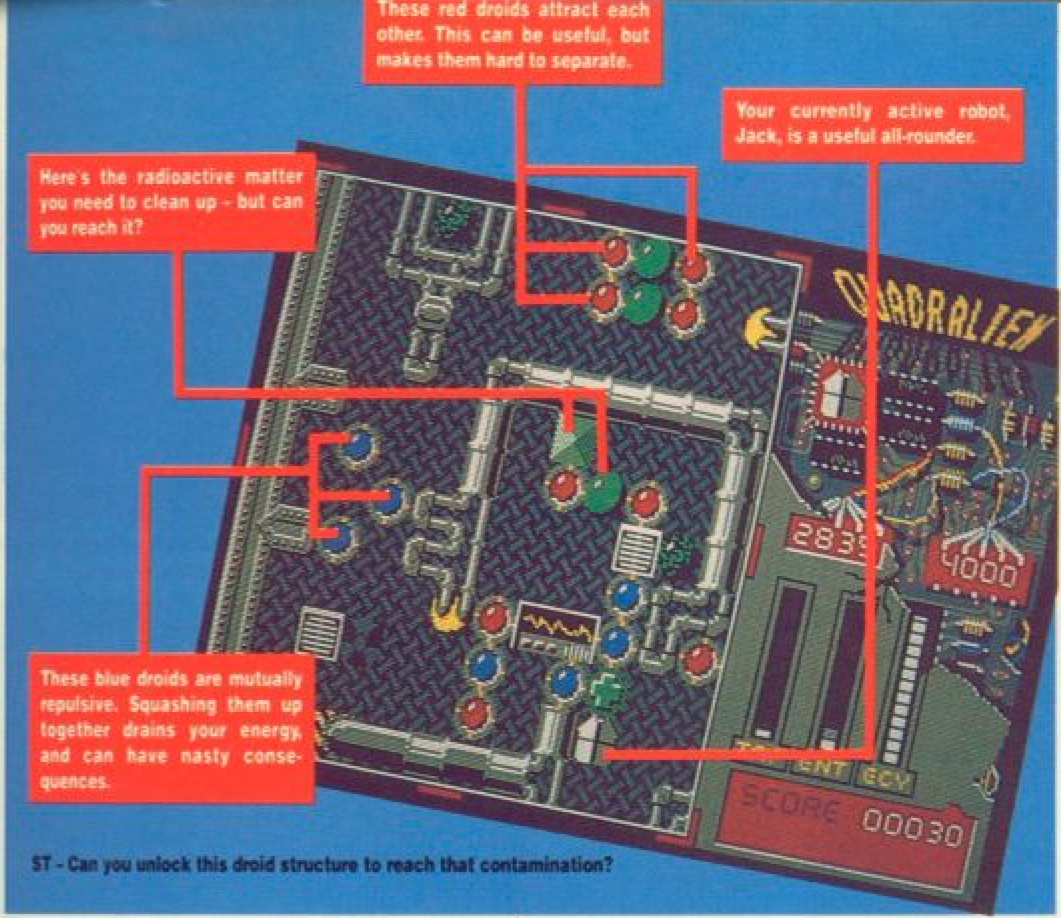
GRAPHICS 8 **IQ FACTOR** 1
AUDIO 8 **FUN FACTOR** 5

ACE RATING 695

Along with mousetraps and sub-games there are also icons for money, trivia questions, the rent man and the slow-down. The money icon guarantees the Stooges at least $200, the trivia question gives the Stooges a chance to earn $500 if the player can answer a Stooges trivia question, and the rent man deducts 10 percent from the Stooges earnings so far. The slow-down icon puts the player in control of Moe and he has to bop and kick Larry and Curly as many



The waiter sub-game, and how could the Stooges refuse an offer like that?



These red droids attract each other. This can be useful, but makes them hard to separate.

Your currently active robot, Jack, is a useful all-rounder.

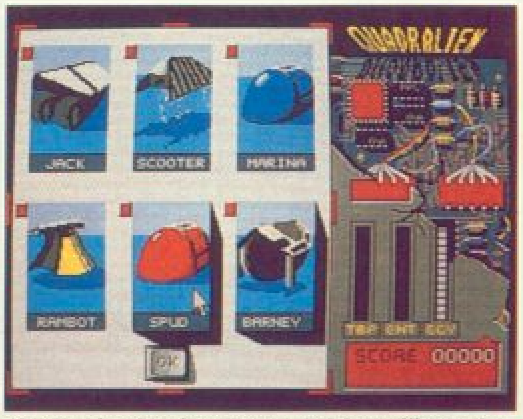
Here's the radioactive matter you need to clean up - but can you reach it?

These blue droids are mutually repulsive. Squashing them up together drains your energy, and can have nasty consequences.

ST - Can you unlock this droid structure to reach that contamination?

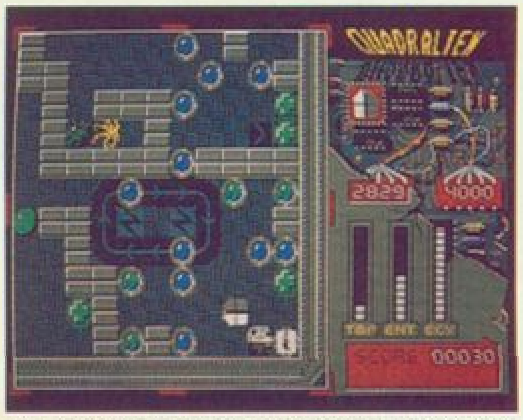
energy level falls as you recharge your robots. You can help slow the temperature rise by reducing the 'entropy' – the amount of movement, that is – in each of the modules. Certain patterns of droids, particularly blue ones, can set up continuous oscillations: breaking these up can buy you time, but contact with an oscillating druid can drain your robot's energy.

To actually lower the reactor's temperature, you'll have to find coolant pods and push them down nearby chutes. There's a strategic edge to this: the pods are most effective when the temperature's highest, so you're best off saving them till things get critical. The chutes also serve another purpose: if you shove energy pods down there instead, you can replace some of the reactor energy your activities have burned up.



ST - The six robots in your team each have different characteristics. Choose carefully - some are far better than others for particular modules.

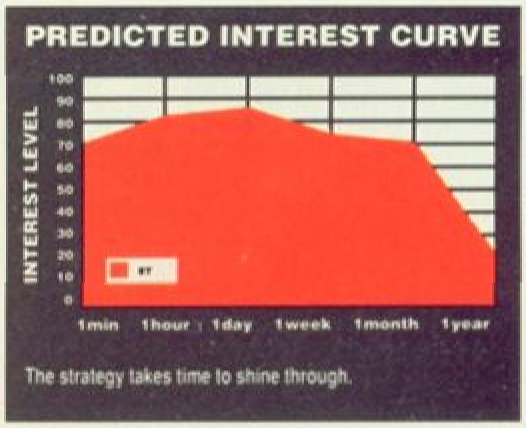
All this provides a good structure for some very absorbing gameplay, with a whole host of extra features adding depth and complexity, but for the most part there isn't the same riveting addiction that *Xor* delivered. In *Xor*, one mistake meant you had to restart the level: in *Quadralien* there's a strategic penalty to be paid when you have to blast your way through a messed-up structure, but that's just not as immediate or challenging.



ST - There's a lot of oscillation among all those blue droids, and that's boosting the module's entropy dangerously. You'll have to act fast, before the temperature goes through the roof.

People who found *Xor* just too abstract or frustrating to bear may well find this one a more palatable way of exercising the old brain, but the die-hard puzzle fiends out there will probably stick to fish and chickens.

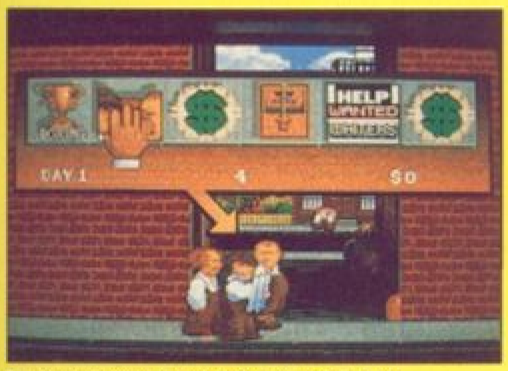
● Andy Wilton



The strategy takes time to shine through.

times as possible within a short time limit. If you're successful, the hand moves much slower across the icons enabling you to choose more carefully.

There are four sub-games. The first has you controlling all three Stooges as they stand behind a bench full of custard pies. By moving the joystick and pressing fire you can get the Stooges to pick up and throw pies at the customers on the opposite side of the dining room. The customers throw pies back though and if they score five hits on any of the Stooges it's game over and on to the next day. There's $10 to be made for every pie thrown and double pay if the set number of pies is thrown before you cop five hits.



The icon selection screen at the start of the day.

The second sub-game has the Stooges posing as doctors rushing to the operating theatre. They've climbed into motorised wheelchairs and you have to guide them through the corridors of the hospital, avoiding the patients that appear from the top of the vertically scrolling screen. Hit five patients and it's back to the icon selecting screen.

Curly and Larry are the stars of the third sub-game. Curly's in the boxing ring and Larry's got to run to the nearest radio shop and return with a radio before the end of the sixth round. This sub-game puts Larry in your direct control running across a sideways scrolling landscape avoiding obstacles on the pavement.

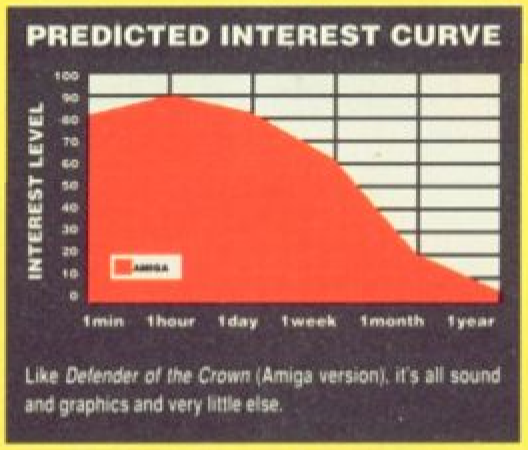
The last subgame has the player controlling Curly's spoon during a cracker-eating contest (the crackers float on soup) and Curly has to get to the crackers before the oysters in his soup do.

If you're a Stooges fan you're gonna love the game – at least you will the first time you play it. After that the digitised speech gets boring, the disk swapping becomes tedious and the sub-games become too easy. There's simply not enough in here to keep you playing for much longer than a week.

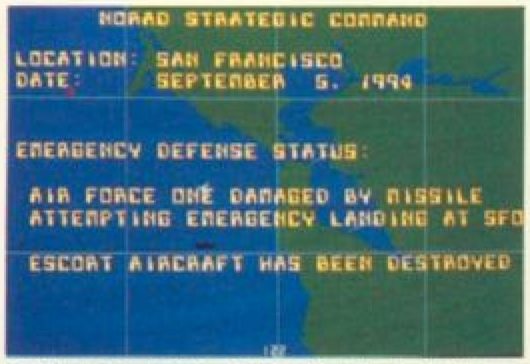
● Andy Smith

RELEASE BOX

AMIGA	£29.99dk	OUT NOW
C64	£14.99dk	IMMINENT
ATARI ST	TBA	IMMINENT
IBM PC	TBA	IMMINENT



Like *Defender of the Crown* (Amiga version), it's all sound and graphics and very little else.



NORAD STRATEGIC COMMAND

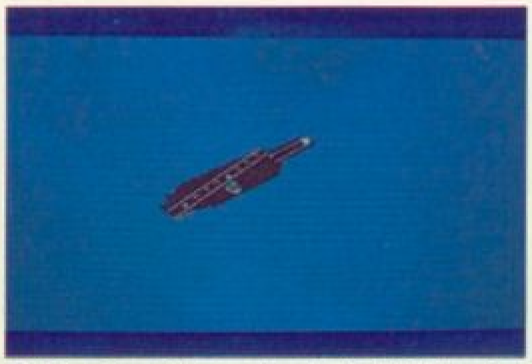
LOCATION: SAN FRANCISCO
DATE: SEPTEMBER 5. 1994

EMERGENCY DEFENSE STATUS:

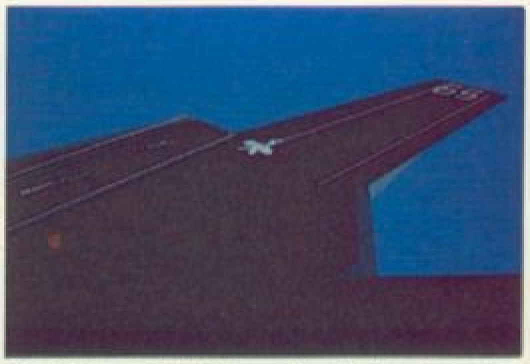
AIR FORCE ONE DAMAGED BY MISSILE
ATTEMPTING EMERGENCY LANDING AT SFO

ESCORT AIRCRAFT HAS BEEN DESTROYED

1 Your mission briefing: Air Force One, the President's personal Boeing 707, is in danger! Can you save the day?



2 Your view spirals down towards the USS Enterprise, your mothership.



3 On the catapult deck, your Hornet's already armed up and ready to go.

INTERCEPTOR

ELECTRONIC ARTS hit the flight deck!

SOLID 3D is nothing new in the world of flight simulators, but solid action is a different matter. When you find a program that looks, sounds and feels intensely realistic, you don't expect stunningly addictive gameplay into the bargain. All that's about to be turned on its head: if you find flight sims boring or tough to get into, Stateside programming house Intellisoft's jet-propelled stunner won't just change your mind – it'll blow it!

It's September 1994, and as international tension rises the air over San Francisco Bay is prowled by MiG fighters. In a variety of gung-ho missions you'll dogfight, strafe and afterburn your way to air superiority, keeping the skies of America safe and generally defending the free world. Can you save the President when Air Force One is attacked? Can you stop two F-16s from defecting to the Soviet Union? Can you stop those rascally reds nuking San Francisco? If you can you'll get even tougher, stranger missions, each revealed to you only when you've completed the previous one successfully. The suspense is riveting as the briefing flashes up on-screen, and once you're airborne the game just grips like a vice.

You won't be able to get straight into the action, mind you. It's not that there's a huge learning task or a hefty manual to struggle through – in fact the game presents an easy, graded course that'll have you flying combat missions in no time, with very little bookwork required. No, what holds you up is the sheer power of the game's presentation. The sound will astonish you – you just don't know what game effects can do till you load this one up – and the graphics are simply out of this world.

Choosing Demo from the main menu will get you your first taste of this visual excellence, but to really cut the program loose you'll want to select Free Flight instead. This lets you fly out from the carrier Enterprise or any of three airstrips ashore, either in an F-18 Hornet or (from a land base) an F-16 Fighting Falcon, getting the hang of the aircraft's controls and handling characteristics without enemy fighters or mission objectives to worry about.

Once you've chosen your starting point and plane, you're treated to a breathtaking zoom in from a large-scale map right down to ground (or sea) level. You can take time to recover as the view moves inside the cockpit ready for take-off, but once you're airborne the amazement starts all over again. Hear the whine of hydraulics as your landing gear retracts, or the whoosh as you engage the afterburner; see the ground fall away and the sun slip into view as you pull up into a climb; and (almost) feel the plane jar as you burst through the sound barrier. It's so realistic

Not satisfied with the straight-ahead view? Then take a look round, or hop outside the cockpit entirely! There's a wide range of different viewing angles you can select using

934
ACE RATED

RELEASE BOX

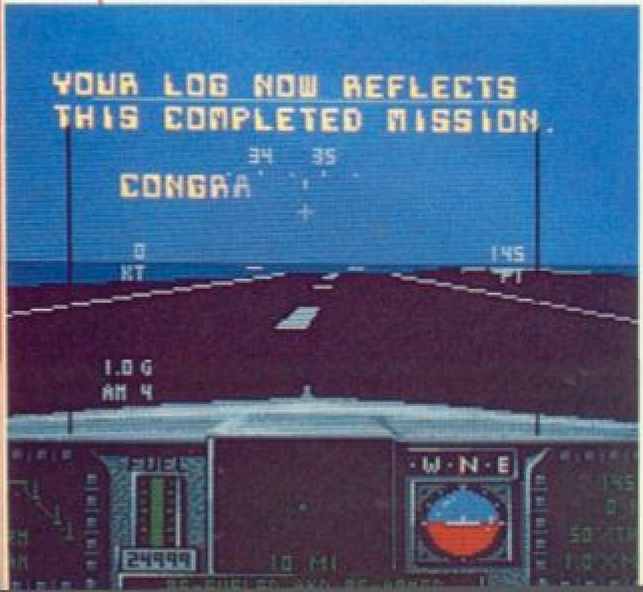
AMIGA	£24.95dk	OUT NOW
No other versions planned		

AMIGA VERSION

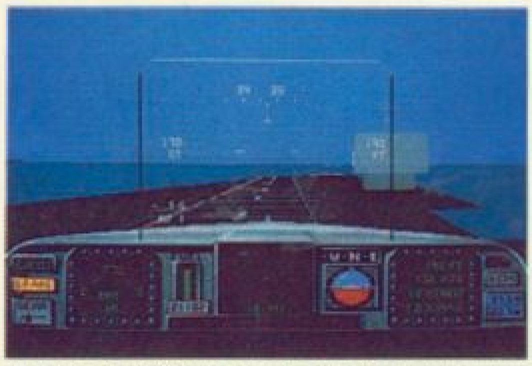
Graphics like this make the case for buying an Amiga far better than words ever could, but screenshots don't tell the whole story. On 512K machines the engine noises, explosions and ominous background growl are electrifying, but on an expanded A500 or an A2000 they're even better!

GRAPHICS	**10**	**IQ FACTOR**	**7**
AUDIO	**8**	**FUN FACTOR**	**9**

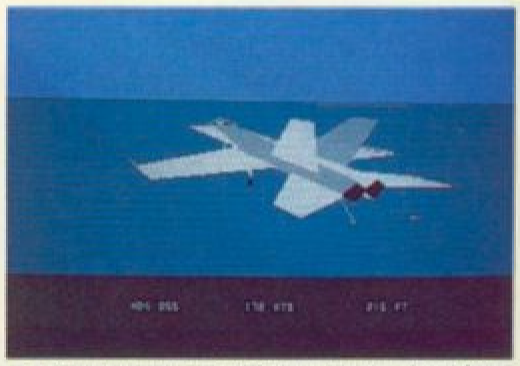
ACE RATING 934



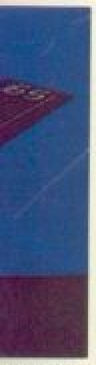
YOUR LOG NOW REFLECTS
THIS COMPLETED MISSION.



14 Even at 170kts, the angled landing deck zooms up to meet you very fast indeed. Miss those arrestor wires (the grey lines running from side to side) and you could well end up in the drink!



13 Throttled down to 50% thrust, you're almost home. You've got your landing gear and arrestor hook down ready for a textbook touchdown.



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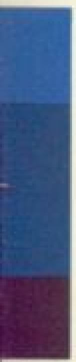

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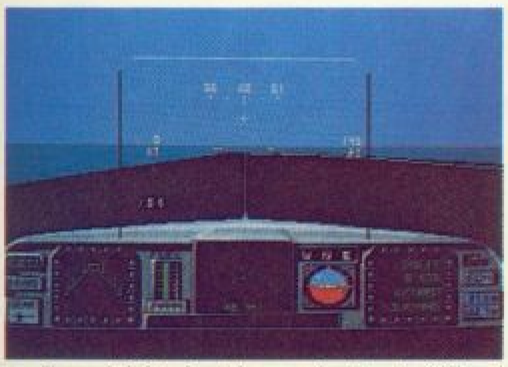


4 The cockpit interior: take your thrust up to 90% and the catapults will hurl you off the deck!

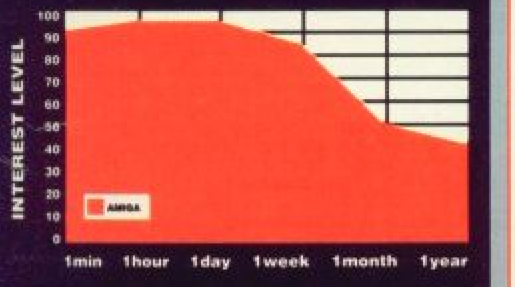
the numeric keypad on your keyboard: the controls for this are logically laid out and easy to use in flight. These spectacularly improve your overview of things – combat manoeuvres can make a great deal more sense when viewed from outside the cockpit – as well as the game's visual impact.

Of course if you want to get outside the cockpit for real, there's always the ejector seat option. It's not just a mission abort feature – it actually gives you a pilot's eye view of baling out. This is even better when viewed from outside the plane, as the 'camera' shows your canopy breaking away and then follows your descent by parachute. Stunning stuff!

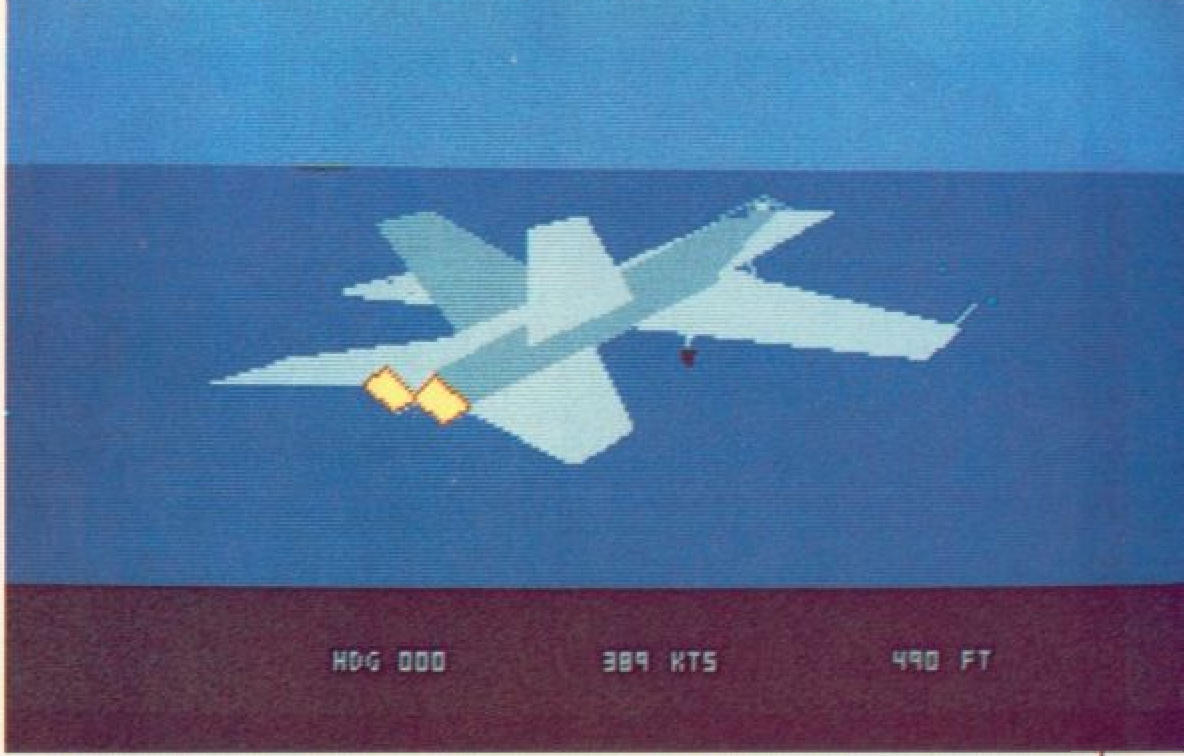
Programmer Bob Dinnerman and the Intellisoft team have really pulled out all the stops on this one, with a terrific overall game structure and tremendous attention to detail. Purists might dispute the label 'simulator' – it certainly wouldn't train you to fly a real life Hornet! – but this program combines realism and gameplay far too well for that to matter. If you want seat-of-the-pants air combat action, miraculous graphics and NO six-month training period, look no further!

● Andy Wilton

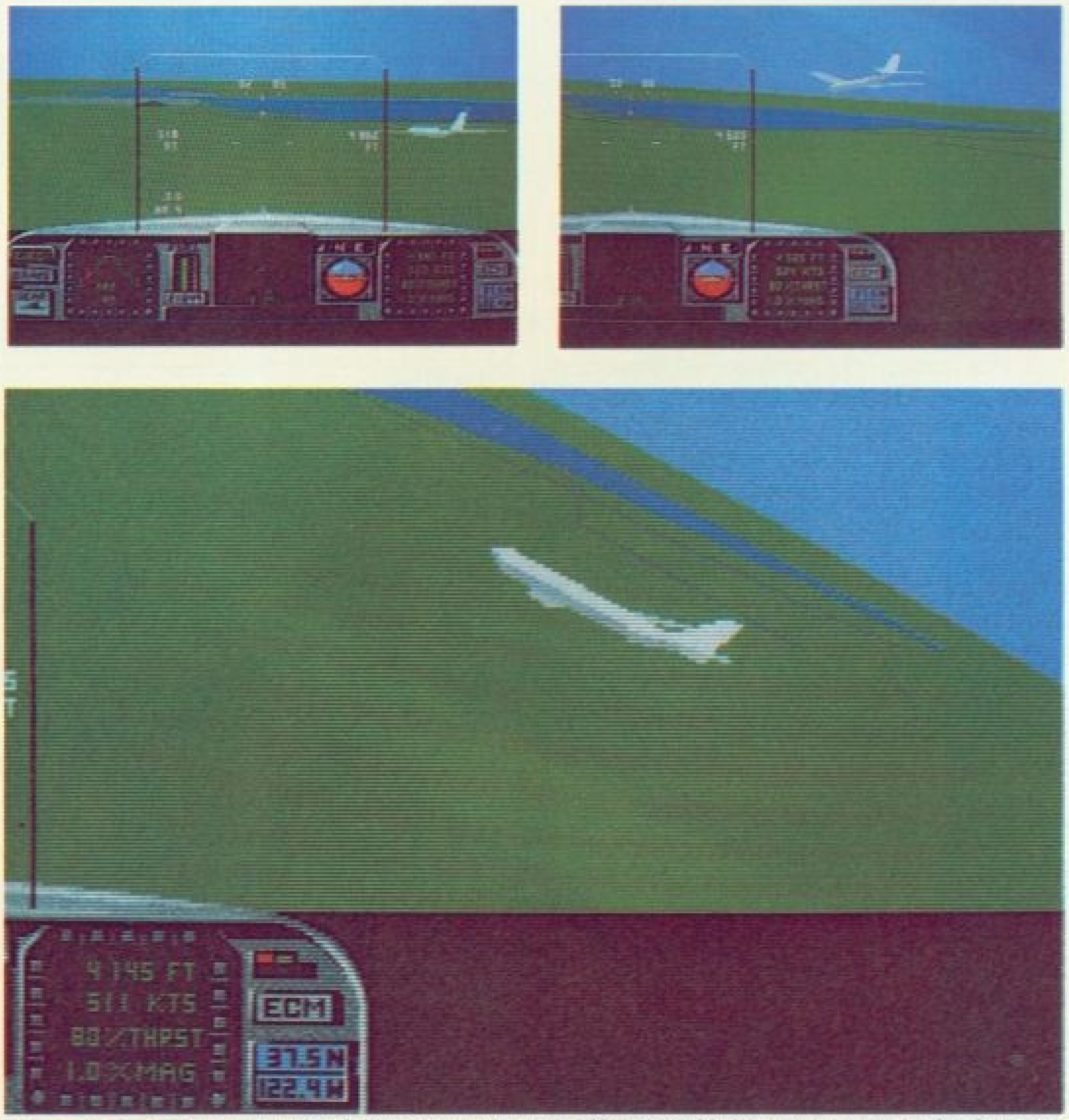
PREDICTED INTEREST CURVE



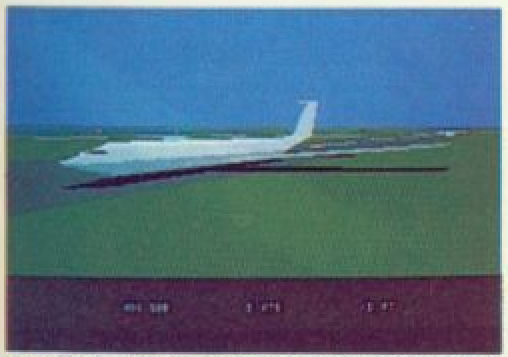
Riveting stuff, but there are a limited number of missions.



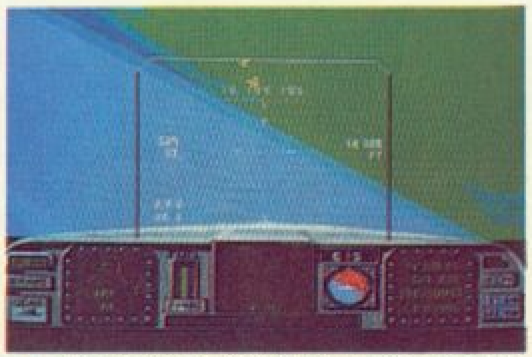
5 The view from a rear three-quarter position as you power skywards. Tut tut! You've already engaged afterburners (the orange glow in your jet exhausts) and you haven't even raised your undercarriage yet!



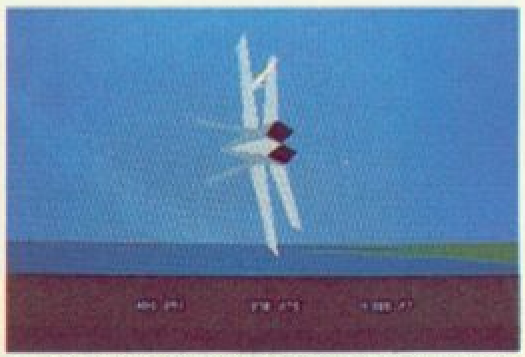
6, 7 & 8 Rendezvous with Air Force One: you've got a MiG to deal with, but you can spare the time for a good look at that 707 as it lines up for final approach at San Francisco International.



12 The President's plane touches down safely – well done! Now you've just got to find the carrier and put your plane down safely.



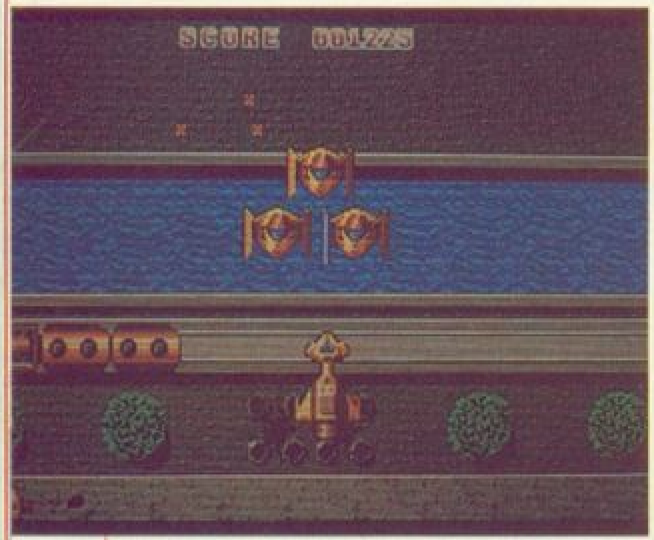
11 You roll over and dive for another missile run, but it's unnecessary – that ball of flame is all that's left of your opponent.



9 Afterburners off now to reduce your heat signature, you swing round to attack that MiG. You've already launched one AMRAAM at him, and here's another for good measure!

FOUNDATIONS WASTE

EXOCET get launched



ST - Very pretty, very hectic - and very unoriginal.

VAST quantities of plasticky cards disgorged from the packaging only gradually reveal that *Foundations Waste*, from new company Exocet, is nothing more than a five-level, vertically-scrolling blast. One lone hero facing a trek across ground swarming with hostile installations, through space filled by wave after wave of vicious aliens etc etc. Yup – again.

Mind you, if the gameplay hardly does justice to 16-bit machinery, the graphics certainly do. Shoot the bad guys, and now and then they leave behind a glowing blue symbol. Pick that up and you either get temporary indestructibility (indicated by a flashing green shield) or a blue laser bolt to replace your standard twin-firing guns. Pick up a *red* benefit, and you get an autofiring drone – even better! Perhaps best of all are what look like bits of your ship left lying around on the ground. Pick those up and you get side-firing weapons.

Trouble is, as the screen fills up with bad guys the graphics slow alarmingly. A screenful of aliens is bad enough, without your ship being reduced to crawling around the screen like an arthritic slug.

Be that as it may, *Foundations Waste* is a good example of its type. Put your joystick on autofire, sit back with a mug of cocoa and wave the joystick around for half an hour blasting a few more aliens into oblivion. Highly attractive, and thoroughly mindless.

● Rod Lawton

RELEASE BOX

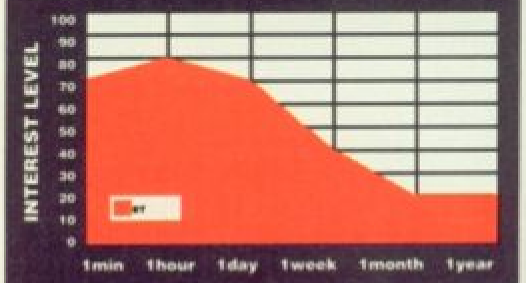
ATARI ST	£24.95dk	OUT NOW
AMIGA	Under development	

ATARI ST VERSION

Control is sluggish and unresponsive at times, and the graphics almost grind to a halt when the action gets frantic. Very pretty, nonetheless.

GRAPHICS 7 **IQ FACTOR** 1
AUDIO 5 **FUN FACTOR** 7
ACE RATING 606

PREDICTED INTEREST CURVE



Nice to look at, but that's about it.

SIDEWINDER

Play it again with MASTERTRONIC

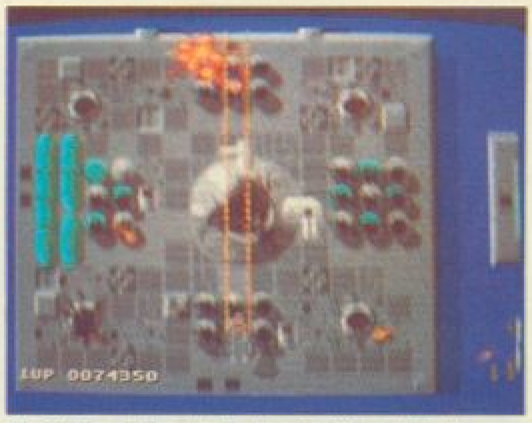
RELEASE BOX

AMIGA	£9.99dk	OUT NOW
ATARI ST	£9.99dk	IMMINENT *

AMIGA VERSION

With 16-bit shoot-'em-ups you expect great graphics, and *Sidewinder* delivers. You *don't* expect lasting gameplay, and sure enough you don't get it. A simple formula that looks good and plays well and lasts as long as any other of its type.

GRAPHICS 8 **IQ FACTOR** 1
AUDIO 6 **FUN FACTOR** 8
ACE RATING 701



Shoot those aliens, dodge those bullets, don't die...you know the routine by now.

THE more things change, the more they stay the same. Whoever said that could easily have been talking about computer games. You'd have thought that modern hardware would have left the old vertically-scrolling shoot-'em-up far behind, but not so – they just keep on comin'.

This one's from Mastertronic. Fly across alien spaceship...destroy ground installations...destroy flying aliens...face increasing levels of difficulty...and so on and so forth.

At first sight there's little to distinguish *Sidewinder* from a whole host of similar products. The graphics are nice, the backgrounds detailed and colourful, the sprites large and ferocious. There's nothing here that hasn't been seen many times before.

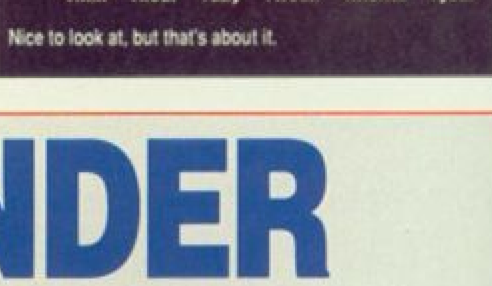
As usual you pick up bonuses along the way. R gives you Rapid Fire, P gives you Power Shots (destroy every target with a single hit), G gives you Ghost (temporary invulnerability) and H gives you Hover. All nice and handy, but you can't save them up – you have to use them as you find them.

Where *Sidewinder* scores is the progressive way the difficulty builds up. The scenery, too, improves as you go on – screen four is very pretty indeed. Alas, after that you've got just two levels to go before you're back to level one, albeit with the difficulty level upped a bit.

And that's the trouble. *Sidewinder* won't take long to crack. True, before you start the game you can select one of five difficulty levels (from Novice to Master), but why not play with one arm tied behind your back, or a patch over one eye...

● Rod Lawton

PREDICTED INTEREST CURVE



A bit more scenery to explore and it would have been a cracker.

ATARI ST
U.K. Language Disk
ATARI
ATARI 520ST

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ST PRICE INCREASE

Due to a worldwide shortage of memory chips, prices of many computers have gone up. From April 1988, the Atari ST range is also likely to be affected. For details of any price increase, please return the coupon below for our latest literature.

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In addition, we at Silica would like to see you get off to a flying start with your new computer, so we have put together a special **ST STARTER KIT** worth over £100, which we are giving away **FREE OF CHARGE** with every ST computer purchased at our normal retail prices. This kit is available **ONLY FROM SILICA** and is aimed at providing users with a valuable introduction to the world of computing. We are continually upgrading the ST Starter Kit, which contains public domain and other licensed software, as well as books, magazines and accessories all relevant to ST computing. Return the coupon below for full details.

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At Silica Shop, we have a dedicated service department of seven full time Atari trained technical staff. This team is totally dedicated to servicing Atari computer products. Their accumulated knowledge, skill and experience makes them second to none in their field. You can be sure that any work carried out by them is of the highest standard. A standard of servicing which we believe you will find **ONLY FROM SILICA**. In addition to providing full servicing facilities for Atari ST computers (both in and out of warranty), our team is also able to offer memory and modulator upgrades to ST computers.

1Mb RAM UPGRADE: Our upgrade on the standard Atari 520ST-M or 520ST-FM keyboard will increase the memory from 512K to a massive 1024K. It has a full 1 year warranty and is available from Silica at an additional retail price of only £86.96 (+VAT = £100).

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We aim to keep stocks of all Atari related products and our warehouse carries a stock of over £½ million. We import many software titles direct from the USA and you will find that we have new releases in advance of many of our competitors. Unlike dealers who may only stock selected titles, we have the full range. In addition, we carry a complete line of all books which have been written about the Atari ST. A range as wide as ours is something you will find is available **ONLY FROM SILICA**.

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ATARI 1040ST-F - NEW PRICE

We are pleased to announce a new reduced price point on the 1040ST-F which is now available for only £499 (inc VAT). The 1040 is a powerful computer with 1Mb of RAM and also includes a built-in 1Mb double sided 3½" disk drive. The 1040 has been designed for use on business and professional applications most of which require a high resolution monochrome or colour monitor. It does not therefore have an RF modulator for use with a domestic TV set. Modulators can be fitted for £49 (inc VAT).

1040ST-F Keyboard Without Monitor	***£499*** *(inc VAT)*
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If you would like further details of the 1040ST-F, return the coupon below.

MEGA ST's NOW IN STOCK

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ATARI ST

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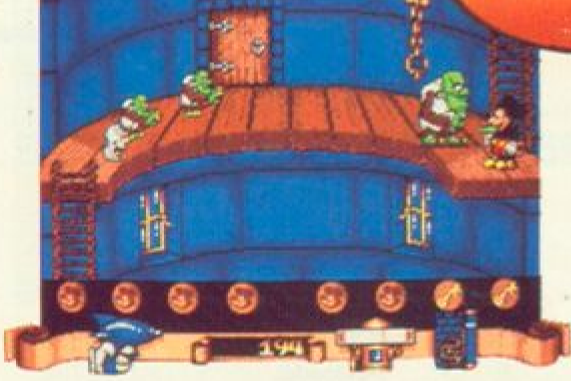
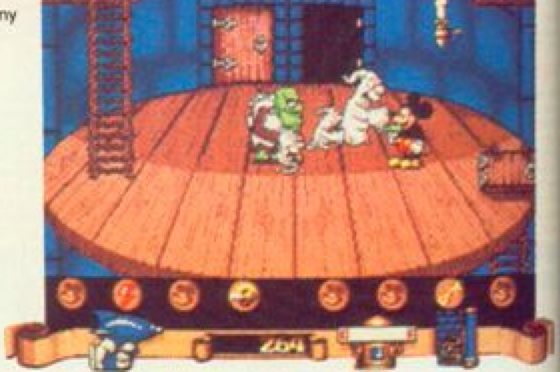




GREMLIN

All mail order enquiries to:
Gremlin Graphics Software Ltd., Alpha House, 10 Carver Street, Sheffield S1 4FS. Tel: (0742) 753423 Telex No. 547274

SIMULTANEOUS four player action, that's what makes this such a good game. The plot's simple – you control an on-screen character and you have to advance through several areas of enemy-infested territory – the longer you survive, the more points you get.

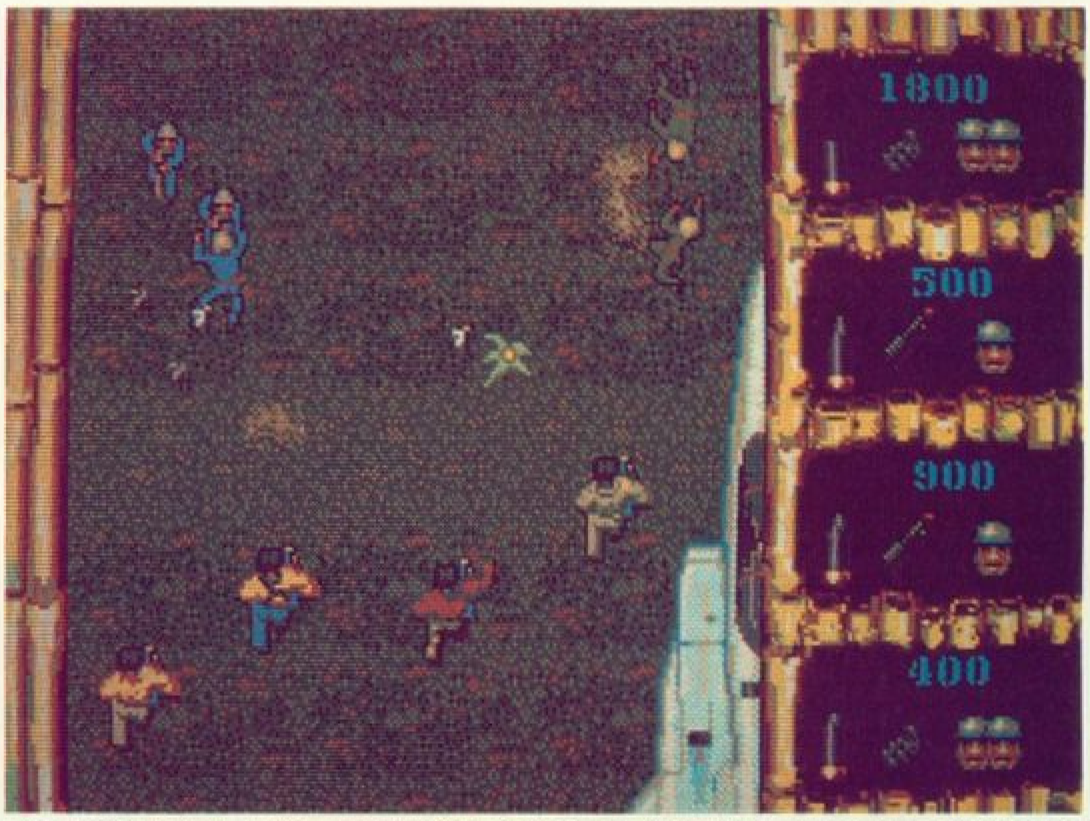
You've got three choices of weapon to use against the enemy. The light machine gun has a high rate of fire but not much range, the heavy machine gun has a slower rate of fire but has greater range, and hand-grenades can be lobbed over obstacles. Switching between weapons is effected by giving your joystick a quick waggle or by hitting the corresponding key. Ammunition for each weapon is limited, but fortunately ammo boxes have been left by the enemy and you can use these. Simply walk into an ammo box (each of which contains an equal amount of ammunition for each weapon).

You view the game through a large window, with a status window to the right. The status window shows you what weapon you're currently using, the ammo level for that weapon and how many of your initial three lives you've got left. The main playing window scrolls downwards as you move up, to reveal the enemy – who shoot machine guns and lob hand-grenades at you. Ground installations also make an appearence in the game and have to be destroyed with a well-aimed grenade. Firing your machine gun doesn't result in a whole stream of bullets slowly crawling their way up the screen No sir, all you see is a bit of muzzle flash and whoever you were lined up with at the time biting the dust. The enemy's shots are visible, however, so you can at least try to dodge them.

Once you hit that fire button, anything directly in front of you dies – including people on your own team. This can be almost unavoidable at times especially when four people are playing at once.

Though it's just a vertically scrolling shoot-em-up, the four player option makes for long-term interest. The start points for each new game vary so tactics developed for one scenario simply don't apply to any other. The only time you'll have to think about anything though is when you try to decide whether to shoot your pals in the back and go for that high score!

● Andy Smith



Four go mad in the jungle – you've a well-balanced side at the moment with two using grenades and the other two on light machine gun.

LEATHERNECK

MICRODEAL's four-way frolic

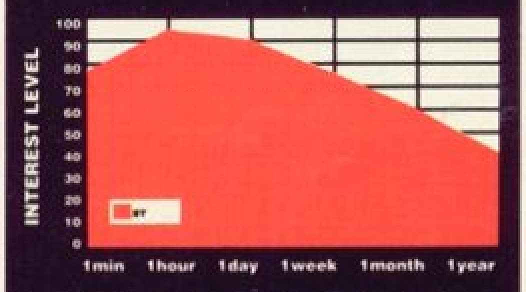
FOUR-PLAYER FUN

To really get the most from the game, you've got to get some friends round to play the game with you and you'll need the special adaptor which should be available from the same place you bought the game, or direct from Microdeal at a cost of £5.95 – this allows all four of you to play the game using different joysticks. It's a pretty safe bet that some future Microdeal games will utilise the widget, so your money will be well spent.

RELEASE BOX

ATARI ST	£19.95dk	OUT NOW
AMIGA	£19.95dk	IMMINENT
No other versions planned		

PREDICTED INTEREST CURVE



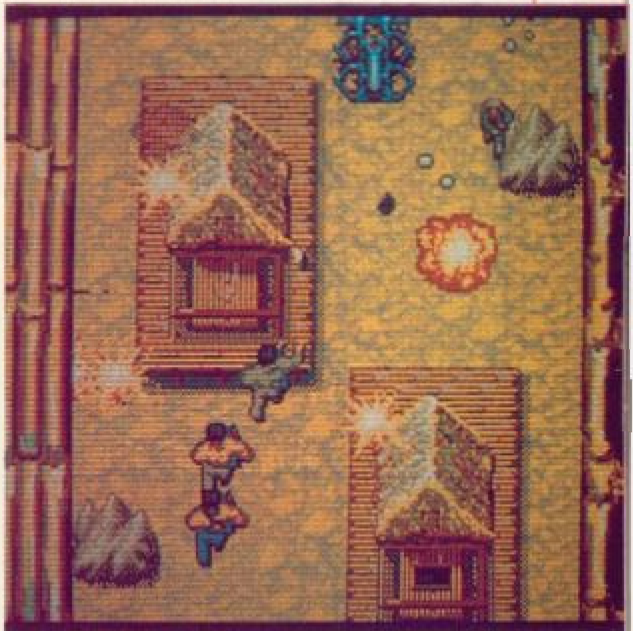
Just misses being ACE Rated, but it's mighty playable stuff nevertheless.

ATARI ST VERSION

The graphics, scrolling and animation are all top notch. Sound, too, is very impressive (screams, gunfire etc) all of which help to make this one of the most enjoyable *Commando/Rambo* type games ever to have appeared.

GRAPHICS	8	**IQ FACTOR**	1
AUDIO	8	**FUN FACTOR**	9

ACE RATING 897



Then there were three – player four got just a little too close to that grenade explosion and has been blown to smithereens (players 1 to 3 have a little chuckle).

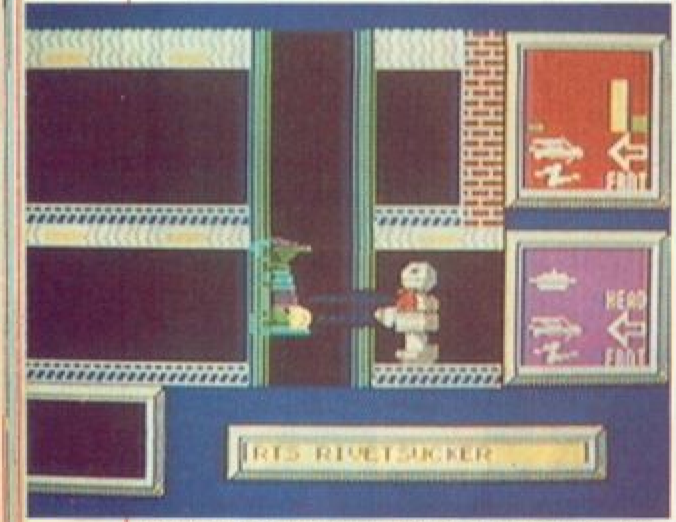
CYBERKNIGHTS

CRL have at you!

WRITING high quality 8-bit wargames like *Arnhem* and *Vulcan* is one thing, but R.T. Smith has now turned his attention to arcade games. Can he produce them to the same high standard as his earlier works?

Cyberknights is an arcade adventure game with strategic elements. The player controls a Cyberknight and has different objectives to reach, depending on whether one or two players are playing. Assuming there's only one player, the objective is to destroy the 10 computer-controlled robots that wander around the arena. In the two-player mode, the objective is to destroy the other player's Cyberknight.

The arena is large and consists of several rooms conected by various lifts and walkways. Should you happen on a computer-controlled robot in a room you have to use your limited weapons to their best advantage in order to destroy them. Persuading robots to fall out of lifts is another effective method of polishing them off (if you can lure them into one).



You've got a hefty beam laser, so destroying the other droids should be a little easier.

Scattered around the arena are small bags of money that are used at the end of the game to purchase better equipment for your Cyberknight. Deciding which bits to add and which to take away is done using the designer program that comes with the package and has to be loaded seperately. You can save your Cyberknights to tape so you don't have to struggle for hours just to reach the point you got to last time, but overall the game's structure is repetitive and the novelty soon wears off. It's very doubtful you'll be playing this in a year's time.

● Andy Smith

RELEASE BOX

SPECTRUM	£7.95cs	OUT NOW
No other versions planned		

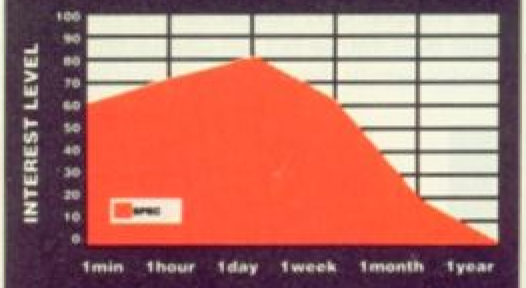
SPECTRUM VERSION

The graphics are colourful but the animation is a little slow. Sound is limited to some mediocre effects and the repetitive nature of the game has your interest waning sooner than it might.

GRAPHICS	**6**	**IQ FACTOR**	**4**
AUDIO	**4**	**FUN FACTOR**	**6**

ACE RATING 618

PREDICTED INTEREST CURVE



Interesting stuff initially.

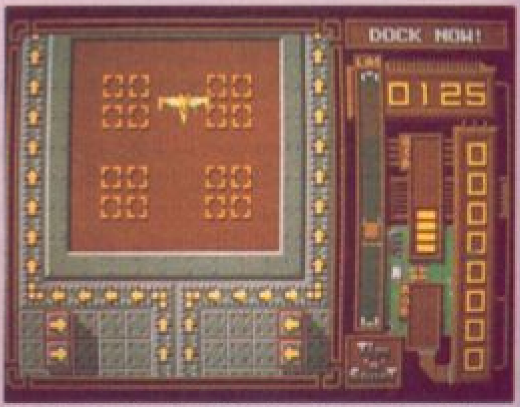
GOLDRUNNER II

Metallic jogging with MICRODEAL

GRANDAD won a new world for the human race and now the responsibility for holding on to it has passed to you, the grandson. The game is visually much like the original *Goldrunner* – fast vertical scrolling, lots of aliens and ship shattering, terminal crashes. The craft you control is much smaller, but the gameplay has been beefed up.

The family business takes place on a vertically scrolling corridor with large blocks at each end. Flying into them, or any other buildings in the corridor, will result in an abrupt termination of your existence. The design of the corridor varies from level to level, and there are also two scenery disks available that provide completely new backgrounds and obstacle arrangements.

On each corridor there's a network of roads carrying transporter cars. These are carrying robot pilots which you're supposed to rescue. If you shoot the cars it prompts recovery ships to appear and pick them up. This causes the ship to change colour, at which point you can shoot it and collect the robot pilot before it stops flashing. Then all you have to do is drop them off at a teleport zone for big bonus points at the end of the level.



The teleport zone where the robot pilots are dropped off.

While this is going on the enemy are piling in ships that can't actually hurt you, but can bounce you into the ground obstacles with their fire. The level ends when all the robot pilots are recovered or destroyed and you progress to the next, harder level.

● Bob Wade

RELEASE BOX

ATARI ST	£19.95dk	OUT NOW
No other versions planned		

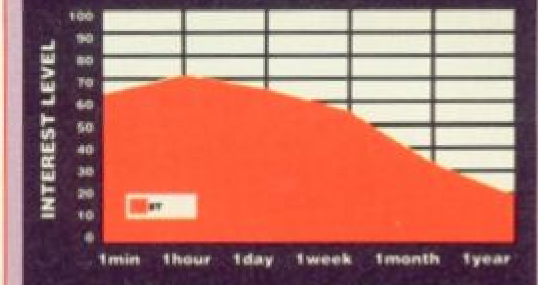
ATARI ST VERSION

The scrolling is just as fast as the original but the graphics have more detail and use of colour. The alternative scenery disks look better but will set you back £6 a time. The controls are sharp and generally the reduction in size of your ship makes it much more playable.

GRAPHICS	**6**	**IQ FACTOR**	**2**
AUDIO	**8**	**FUN FACTOR**	**7**

ACE RATING 624

PREDICTED INTEREST CURVE



More content than the original, but still a rather basic shoot-em-up.

PHOTON Paint

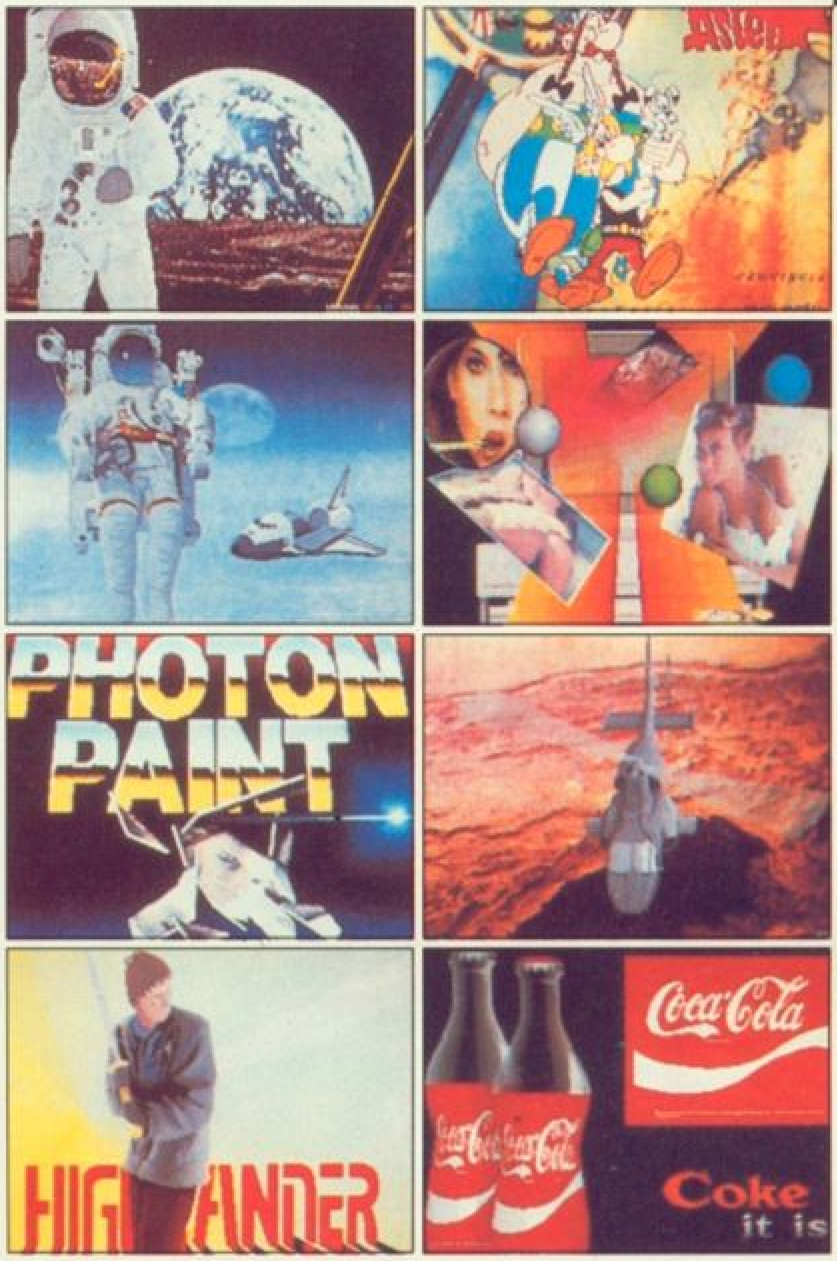


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Image not quite right?

Everyone, at one time or another, has come across a car that is too short, a tree in the wrong place, or a sky that's too grey. Now, with Microillusions' Photon Paint, a new, high-tech paint program for microcomputers, these adjustments can be made at home. A scanned photograph, or an original image created on the screen of your micro, can be altered to your exact specifications. Your 'doctored' or new image can then be printed out onto paper, transparencies, or even onto Polaroid film.

Photon Paint does this through a combination of features from a 32 colour paint program and a HAM paint program, with features which were previously unique to the most sophisticated, high end graphics systems.

FEATURES

- *Sophisticated brush operation including twisting, adjustable transparency and mouse operated perspective tilting.*
- *Rotating and resizing.*
- *Wrapping of brushes onto 3-D objects; i.e. balls, cones, cubes and free-hand drawn shapes.*
- *Luminance – light sources from a user-defined direction and intensity.*

Watch out for Photon Paint in early June!

STARGLIDER 2

COMING SOON...

BY ARGONAUT SOFTWARE

Atari ST/Amiga £24.95

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EDDIE EDWARDS SUPER SKI

Get one jump ahead with LORICIELS

EDDIE Edwards may not be the world's most successful ski jumper, but this ski sim from Loriciels that bears his name sure is a winner.

As ski sims go, this one is head and shoulders above the rest. The animation of your skier is excellent, the background perspective and movement incredibly realistic and the impression of speed as you race down the piste is horrifying.

Using either joystick or keyboard you can speed up, slow down, turn – and go flying off the course in a mess of flailing skis and arms if you push your luck too far.

There are four events to take part in – slalom, giant slalom, downhill and ski jump – and three different pistes to try your luck on. If you don't fancy chancing your arm (or leg) in the heat of competition yet, there is also a training mode where you can make a fool of yourself to your heart's content.

If there's one criticism that can be levelled at *Eddie Edwards*, it's that there's not a great deal of depth to the game. Four events, three pistes – it's not much, is it? Against that, though, it's going to take you a long, long time to get those times down.

● Rod Lawton

ATARI ST VERSION

Animation, backgrounds and perspective are quite superb. Not much gameplay but enormous playability – enough to keep you trying to shave off those fractions of a second for a long, long time.

GRAPHICS 8 **IQ FACTOR** 2
AUDIO 6 **FUN FACTOR** 9
ACE RATING 820

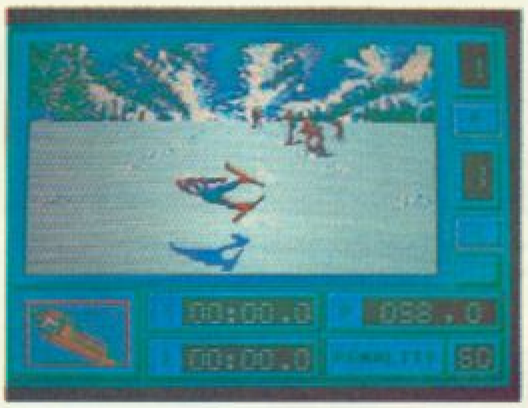
AMSTRAD VERSION

Graphically not as accomplished as the ST version, obviously, but shares its tremendous speed and great animation.

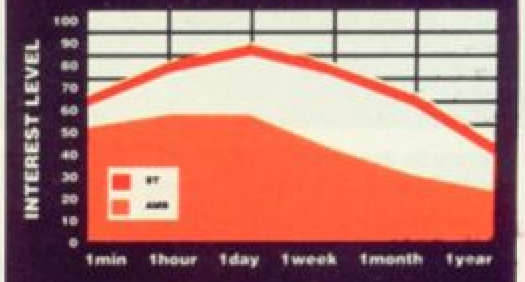
GRAPHICS 7 **IQ FACTOR** 2
AUDIO 6 **FUN FACTOR** 8
ACE RATING 784

RELEASE BOX

ATARI ST	£19.99dk	OUT NOW
AMS	£9.99cs, £14.99dk	OUT NOW
C64/128	£9.99cs, £14.99dk	IMMINENT


ST - You've overcooked it again...

PREDICTED INTEREST CURVE



Not much depth, but a very high skill factor.

INFILTRATOR II

US GOLD sneak in again

ENTRUSTING your life to a Whizbang Enterprises helicopter is about as sensible as ski-jumping nude off the Telecom tower. However, Johnny McGibbits is the kind of guy that will not only do it once but twice. This time he's got three new missions to complete to stop the Mad Leader gaining world domination.

Each mission consists of a helicopter flight to the target and then a ground operation. Both sections take exactly the same form as the original game, the missions being the only difference.

Flying the helicopter is fairly simple, the only tricky part is avoiding the marauding jet aircraft. These will request ID from you and if you answer wrongly you're in for a fight.

Once you reach the target you proceed on foot to explore the enemy base. You are carrying various objects like a mine detector, gas grenades and papers, that will get you past various obstacles. You've also got a number of objects for specific uses like a missile deactivator, brain scanner and brain implant.

You can enter buildings in the base, whereupon you can search furniture for more objects that will allow you access to more of the complex. The whole time you are at risk from the camp guards and the 10 minute time limit.

All this action is exactly the same as the original game; the differences are restricted to the mapping and the objects encountered. For fans of the first title it may prove a reasonable new challenge, while anyone new to the game should find it a good combination of in-flight action and earthbound exploration.

● Bob Wade

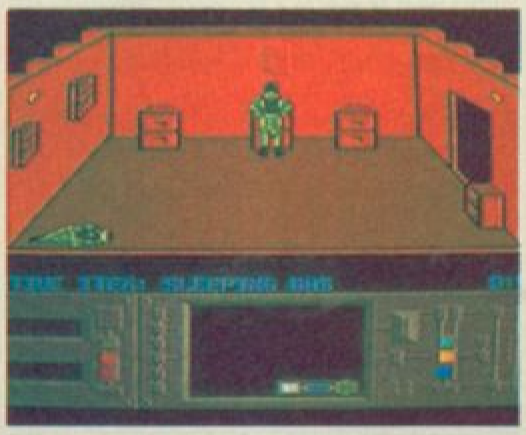
RELEASE BOX

C64/128	£9.99cs, £14.99dk	OUT NOW
	No other versions planned	

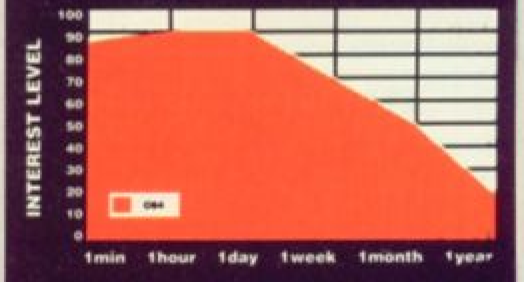
C64 VERSION

The graphics haven't been improved and look a little dated. Nevertheless, considering what's being packed in they aren't bad. The sound is reasonable with tunes at the start and effects sprinkled all the way through.

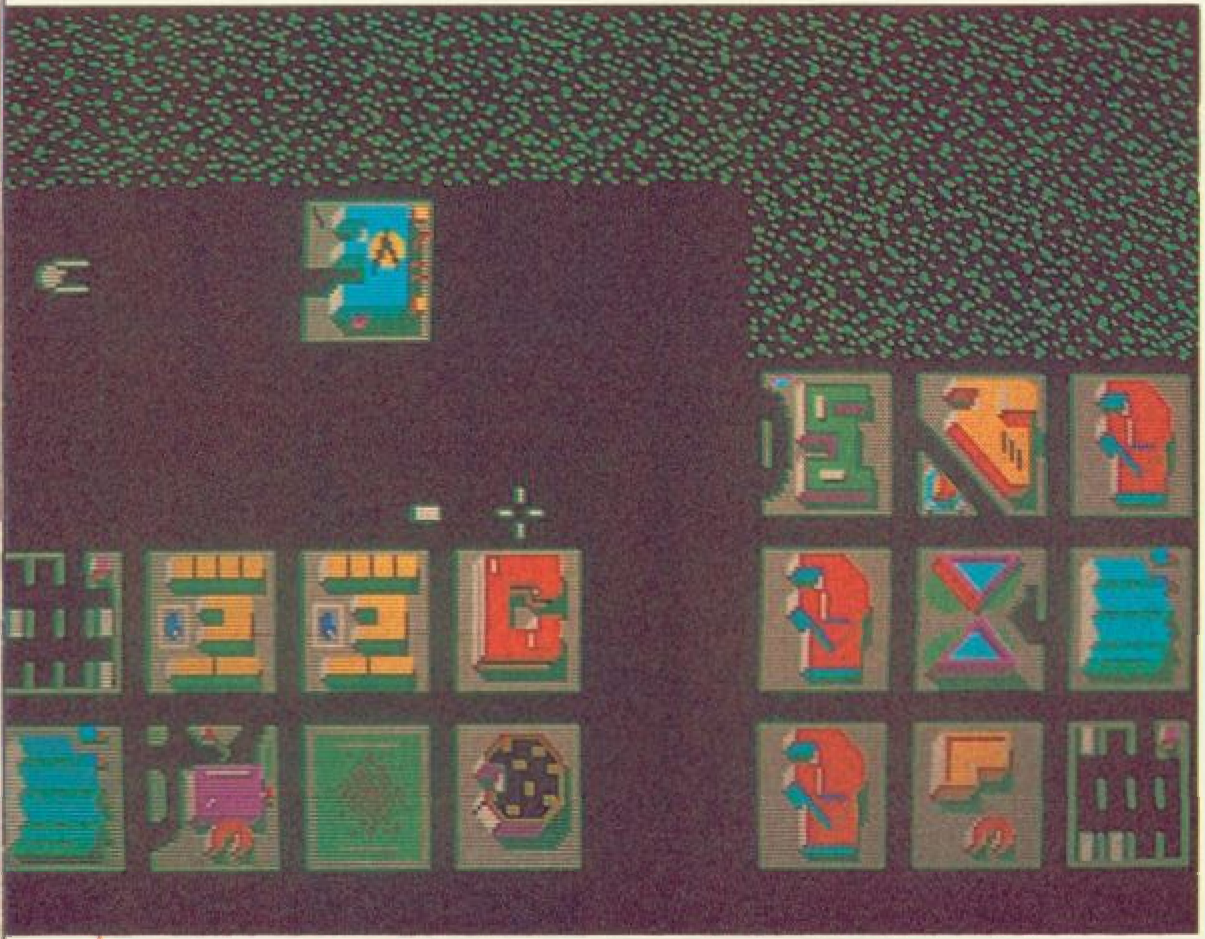
GRAPHICS 6 **IQ FACTOR** 5
AUDIO 6 **FUN FACTOR** 5
ACE RATING 648


You're inside one of the enemy base's buildings and can start searching the furniture for useful items.

PREDICTED INTEREST CURVE



Three tough missions, but there's nothing new to surprise you.



You're in the buggy that's near the cross-hairs. Don't think about leaving it parked there though if you're intending to go in any of the buildings - the local police are very hot on wheel clamps.

SUNDOG

MIRRORSOFT do the Space Warp again

REVIEWING games that are some three or four years old is not a habit we at ACE indulge in very often. But as we were so impressed with *Oids* and *Dungeon Master* and especially as we visited FTL's American offices last month, we were delighted to hear that Mirrorsoft are now geared up to release FTL's first game, previously only available over here as an import.

Broadly speaking *SunDog* could be described as a science fiction arcade adventure game somewhere between *Auto Duel* and *Elite*. Due to your uncle's recent demise you've just inherited a space freighter (The SunDog) and a whole wad of credits. You've also inherited a three-part contract that you have to fulfil. The first part of the contract is to find a religious colony – which is not too difficult as it's somewhere on the starting planet of Jondd. You move around by using your freighter's buggy – a small white rectangle contolled by positioning a cross-hair sight on the landscape and then holding the mouse button down – the buggy then moves swiftly toward the sight.

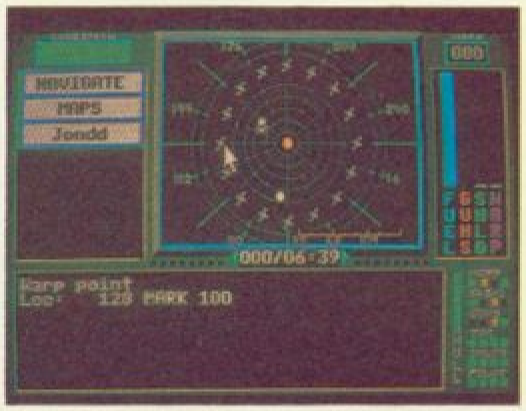
The second part of the contract has you equipping the colony with everything it needs. Again you use the buggy here to trundle from city to city buying and selling goods that are available from the warehouses located in the cities. The third part of the contract sees you rounding up a bunch of colonists who are on various planets throughout the system.

You control a single character throughout the game and you only have one life, so you'll have to maintain your character's health and stamina levels by ensuring he gets enough to eat and that he doesn't exhaust himself with all that driving around (to feed yourself just park your buggy and walk into a bar – of which there are many in the cities – and buy yourself a burger).

Once you've decided you've stayed long enough on one planet it's time to head off to another (it's always time to move on when you're not making enough profit on the goods you've been buying and selling in order to purchase equipment for the colony). Simply select your target planet, proceed at sub-light speed to the warp point and then activate the warp drives – you'll be there in no time at all. Your view of the game whenever you're in space is of the cockpit of the SunDog, and this helps when it comes to fighting off pirates who would just love to relieve you of your cargo. Survive a pirate attack and you'll probably need to put in for repairs as soon as you land. This costs money, but suffer a failed system during a dogfight and you could end up reloading the game from the last saved position.

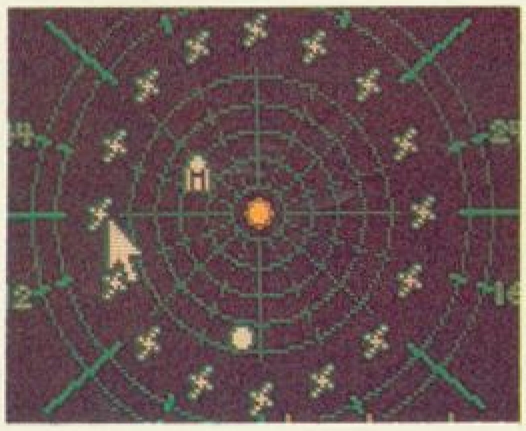
SunDog's an ambitious game that gives the player plenty to think about and do. It takes a lot of playing to get anywhere in the game though, and unless you're prepared to put the work in, you'll soon tire of it.

● Andy Smith



Warp point
Loc: 123 MARK 100

Getting ready to warp to a new system. Proceed at sub-light speed to one of the warp points, hit that button and you're away.



RELEASE BOX

ATARI ST	£14.99dk	OUT NOW
No other versions planned		

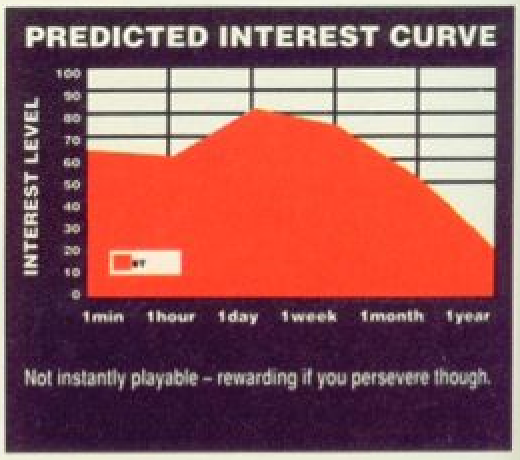
ATARI ST VERSION

The graphics are fine, as is the animation. The gameplay's fine but you have to put the work in early to reap the benefits later on. If you like the *Auto Duel* type of game then check this out. Arcade action fans will find little in here to satisfy them though.

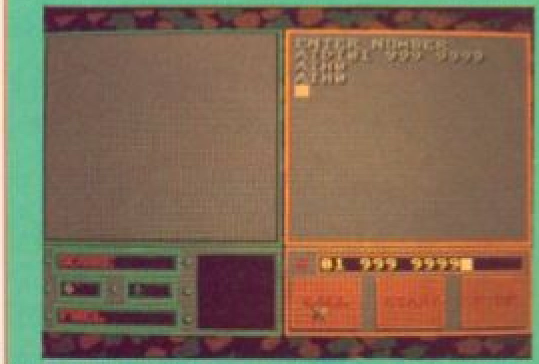
GRAPHICS	7	**IQ FACTOR**	6
AUDIO	5	**FUN FACTOR**	4

ACE RATING 719

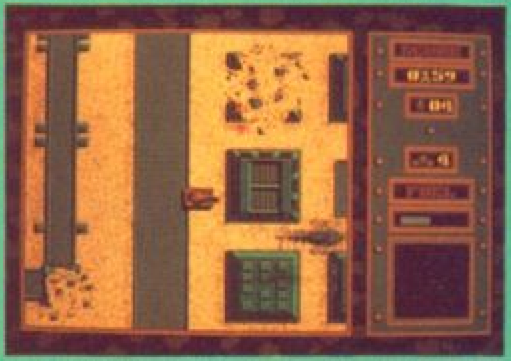
PREDICTED INTEREST CURVE



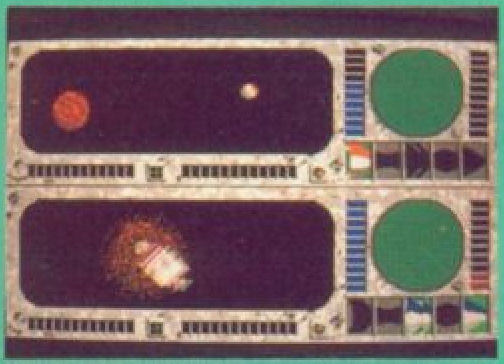
Not instantly playable – rewarding if you persevere though.



Firepower **- two-player modem option - the text messages on the right are the Hayes communication commands.**



Firepower **- the one player option uses the whole display area. That building is in the enemy camp and houses some of your men, previously captured and now awaiting rescue.**



Galactic Invasion **- the map of the universe isn't that inspiring and lack of features makes orientation more difficult than in** ***Firepower.***

ONE TO ONE

ACTIVISION'S new range of play-by-modem games

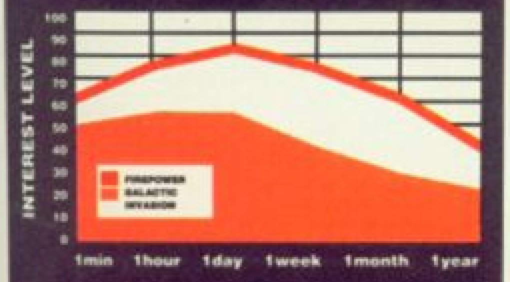
NO need to keep up with the Jones' any more - now you can simply blast them into oblivion as Activision's new label, Microillusions, releases a series of two-player games with play-by-modem options.

Each title offers a choice of single player against the computer, standard two-player, and two-player-on-line modes. In the two-player modes, the screen is split to give simultaneous viewpoints for each party as you roam the game-world seeking out your opponent and engaging in death and destruction. There are currently two games available - *Firepower* and *Galactic Invasion* - with a third (*Turbo*) to come in June - watch out for the review next month.

Of the two currently on the shelves, *Firepower* is definitely the one to go for. You drive your tank across the large, scrolling landscape in search of your opponent's HQ, the aim being to capture his flag and return it to your base. Up against you are numerous gun emplacements that can swivel and fire in eight directions as well as overflying helicopters. Tactics involve mapping, sneaking up on gun turrets, and shooting down the choppers.

There's also a *Choplifter* aspect to the game, since each time the enemy destroys one of your buildings, your men will run towards your tank and, if you wait for them, enter it. You must then deliver them to your Red Cross centre for extra points. Abandon them and they're likely to get shot or squished - which is exactly what you're busy doing to the opposition's men once you've flushed them out with a dose of heavy blasting.

PREDICTED INTEREST CURVE



Exploring 2-player options brings lasting enjoyment on *Firepower*, but barely rescues *Galactic Invasion.*

MODEM MODES

Sounds a great idea, playing these games over the phone line, but there are some pretty comprehensive drawbacks.

The first is that the software demands a Hayes-compatible modem - and that means it won't work with most of the budget price units that gamesplayers are likely to own, although the standard is becoming more popular.

The second drawback is that - even if you're able to get hooked up - you're going to find the phone bills prohibitive. After all, if your opponent is miles away, you've got long-distance call rates to cope with - and if he's local, why not just invite him round?

However, if you've got a suitable modem, you're probably accustomed to large phone bills - and let's face it, playing with a remote opponent can be thrilling stuff. The Jones' will doubtless be green with techno-envy.

GALACTIC INVASION
AMIGA VERSION

Poor graphics - perhaps understandably since a two-player universe is a bit of a programming mouthful. For the same reason we should perhaps forgive the lack of map features, dreary sound, and awkward gameplay - forgive, OK, but forget, no.

GRAPHICS	**5**	**IQ FACTOR**	**2**
AUDIO	**4**	**FUN FACTOR**	**5**

ACE RATING 511

FIREPOWER
AMIGA VERSION

Attractive graphics compensate for lack of variety in the landscape. The game sizzles along for the most part, but occasionally there are unaccountable losses of speed that can be annoying if they coincide with concentrated hostility from your opponent. Sound is explosive, insistent, and continous.

GRAPHICS	**7**	**IQ FACTOR**	**2**
AUDIO	**6**	**FUN FACTOR**	**8**

ACE RATING 808

GALACTIC INVASION

Firepower is simple fare, but still good fun in the one-player mode. With two players it becomes an excellent game - which is more than can be said for its companion, *Galactic Invasion*, which has poor graphics and less satisfying gameplay.

In *GI*, you zip around a small sector of the universe, locating satellites and destroying them. Within each one is a colour-coded component that forms part of a doomsday weapon needed to destroy your opponent's solar system and win the game.

There are five pieces to collect while at the same time avoiding your partner's (or the computer's) hostile ship, collision with asteroids, and running out of energy. In addition, stars exert gravitational force that may suck you in for a quick, fatal roasting.

Galactic Invasion suffers from a dull game-world, mediocre graphics, and a scenario that never seems to hot up to the same extent as *Firepower*. Put your money on the tanks and give the universe a miss.

● Steve Cooke

RELEASE BOX

AMIGA	£19.99dk	OUT NOW
C64/128	TBA	IMMINENT
IBM PC	TBA	IMMINENT

THEXDER

SIERRA's arcade hit

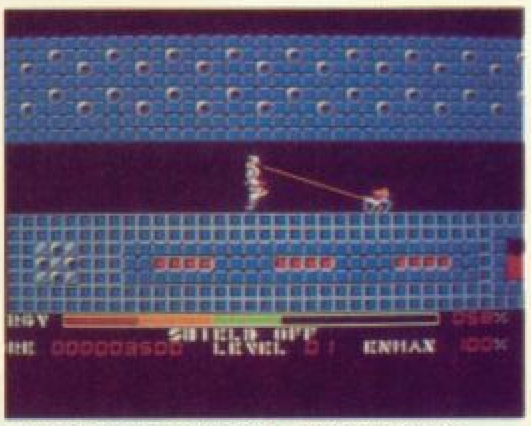
BAFFINS form the staple diet of your Thexder Super Assault Vehicle as you delve deeper and deeper into a maze of tunnels and passages filled with various nasty creatures. Your ultimate aim is to find and destroy the central computer which creates these creatures, though with 16 levels to survive you won't do it overnight.

You might not do it at all if your interest wanes first. The quest is long and hazardous, and not terribly riveting. To call the various levels in *Thexder* 'mazes' is perhaps stretching a point, but you might save yourself a bit of time by mapping them as you go along. Your adversaries take many forms, including the Tribar, Golan and highly unpleasant Clobter, and it's a good idea to approach all unfamiliar beasts with caution – before wiping them out with your heat-seeking laser.

The various awkward passages and tunnels you encounter can be navigated either in Robot or Jet mode, and control is either by joystick or keyboard. You're equipped with a shield for use in emergencies, though even this won't be much use if you plunge into one of the many lava pools. And using the shield costs you points and saps your energy, which can only be replaced by zapping more Baffins, or other unfortunate victims.

Thexder may be a big arcade hit in Japan, but this version offers a long game task without the lasting interest to make you see it through.

● Rod Lawton



Thexder in Robot mode tackling a pernicious Clobter.

RELEASE BOX

AMIGA	£19.99dk	OUT NOW
No other versions planned		

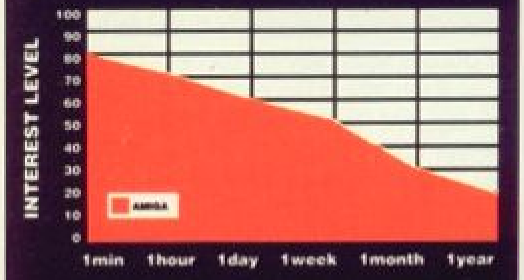
AMIGA VERSION

Competent enough, but the graphics are nothing special and the gameplay is lacklustre. You only get one life – let yourself get killed and there's a tedious wait while the game reloads, accompanied by some dreadfully sombre music.

GRAPHICS	6	**IQ FACTOR**	3
AUDIO	8	**FUN FACTOR**	6

ACE RATING 618

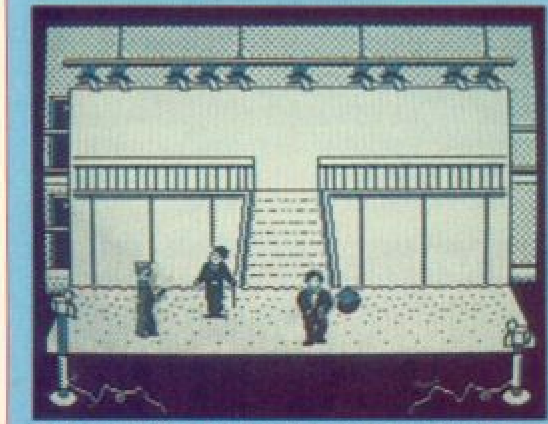
PREDICTED INTEREST CURVE



Plenty of lasting apathy.

...STARRING CHARLIE CHAPLIN

Alternative shoot-em-up from U.S. GOLD



Our hero's on the set and ready to shoot some slapstick.

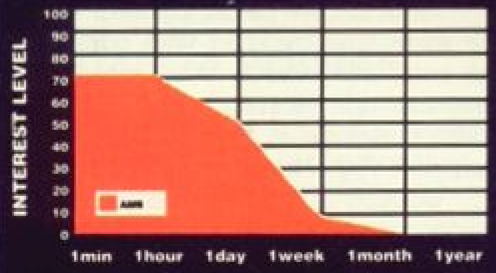
LIGHTS cameras, action! U.S.Gold take you back to the golden era of slapstick, vamps and Valentinos. On a shoestring budget, it's down to you to direct the legendary Charlie Chaplin through some of his greatest films.

You have to decide which of the half dozen films to shoot first so as to make enough money to shoot the remainder. Then choose the script and the order in which to shoot the scenes – they cost varying amounts to shoot and a list detailing cost, number of actors and props is presented to the player prior to filming. Each scene lasts about one minute, during which time you move Charlie around the set climbing steps, ladders and trying to knock the other actors to the ground. Once the scene's been shot, it's off to the cutting room where it can be reviewed at normal or double speed. You can then decide whether to re-shoot (incuring extra costs) or pass onto the next scene. Film all the scenes, hit a key and the finished film is shown to a cinema audience who will let you know just how funny it was. Make a flop and you have to start again, but make a hit and you can go on to direct your next movie.

U.S.Gold have missed the mark with *...starring Charlie Chaplin*. The game relies almost entirely on moving the sprite around the set trying to bop the other sprites – decidedly tedious when you've got to shoot more than three or four scenes. The editing facility is just a fancy replay option adding little to a poor interpretation of a novel idea.

● Andy Smith

PREDICTED INTEREST CURVE



A missed opportunity.

RELEASE BOX

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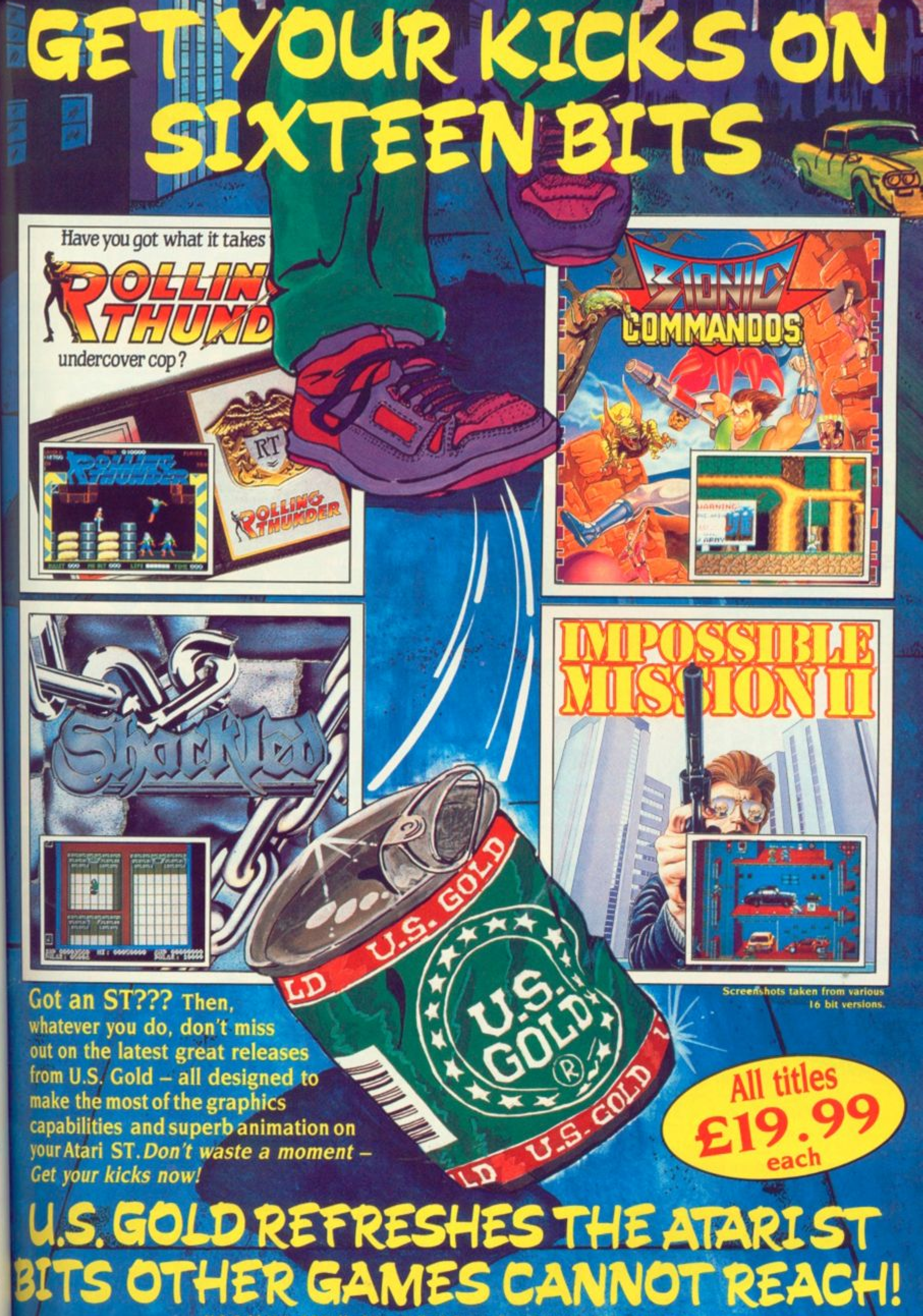
SPEC	£8.99cs, £12.99dk	IMMINENT
C64/128	£9.99cs, £14.99dk	IMMINENT
IBM PC	£24.99dk	IMMINENT

AMSTRAD VERSION

The black and white screens don't add much atmosphere and the sound effects are not too hot either. The game's repetitive and dull and you'll find yourself getting bored with it very quickly.

GRAPHICS	6	**IQ FACTOR**	1
AUDIO	4	**FUN FACTOR**	2

ACE RATING 392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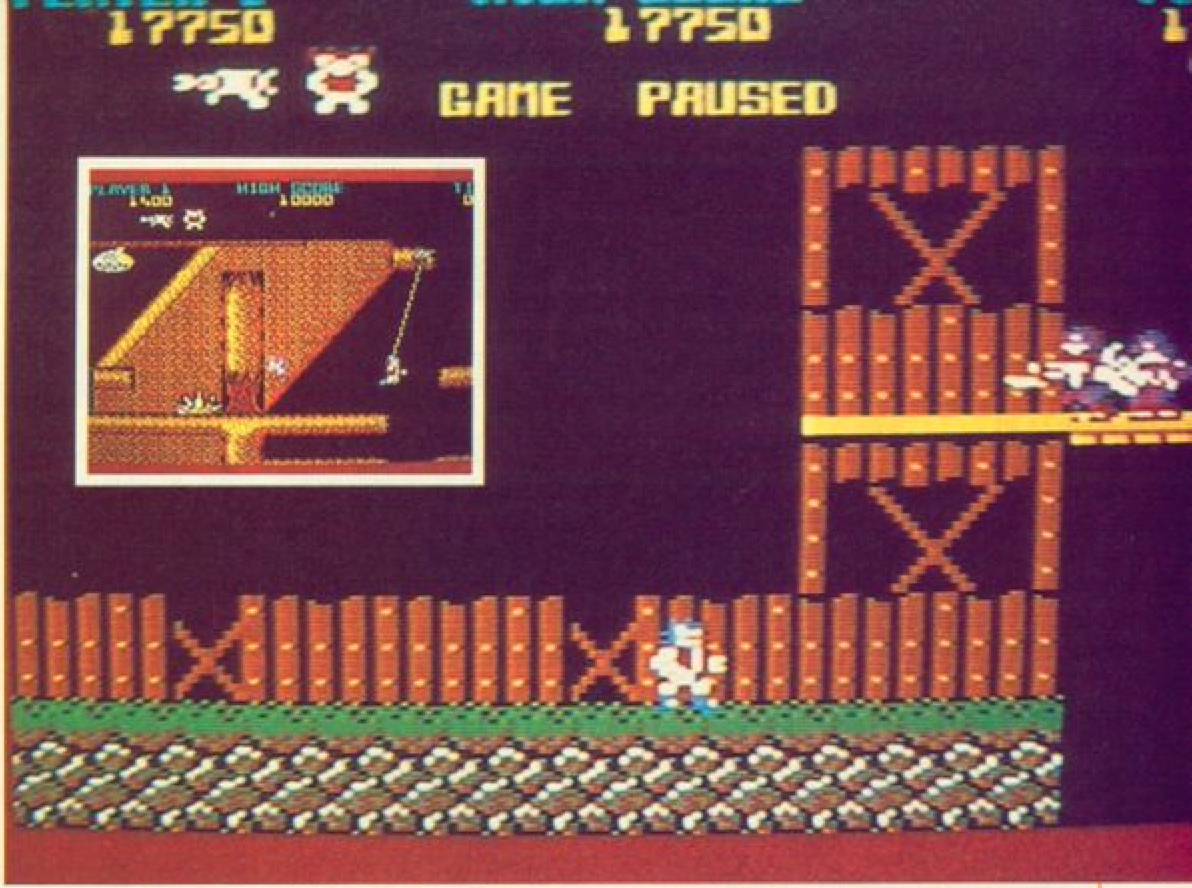
BIONIC COMMANDOS

Six million dollar GO!

TELESCOPIC limbs might not have the same immediate appeal as bullwhips, but in the lead role of this Capcom coin-op conversion you can swing across gaps with greater ease than Indy Jones ever managed. Not surprising really: with bionic strength to fire that claw and needle-sharp talons to help it grip, your high-tech left arm's ideal as a grappling tool. That's not to say it doesn't pack a fair old punch as a weapon too, of course – but with your trusty blaster at hand, why resort to fisticuffs?

Your mission involves disarming enemy missiles to free your people from oppression, but this worthy plotline doesn't intrude much on the game itself. The bionic action's a matter of going places, killing anything that tries to stop you, and – well, that's about it.

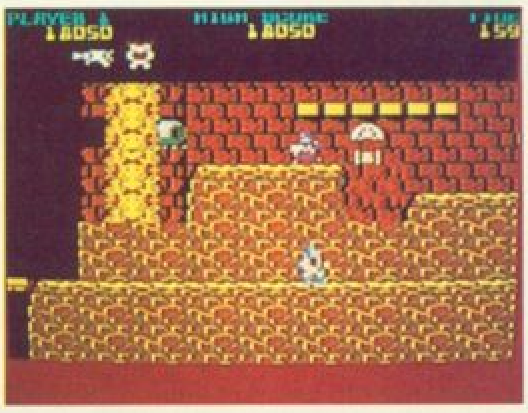
On each level your aim is to reach a finishing point by climbing from one platform to another, swinging across gaps between platforms and generally rushing about. There's a time limit to this, but it's loose enough to let you wait around a while – an essential tactic at some points. What's rather more demanding is the opposition you'll meet in the form of gun-toting and bayonet-thrusting bad guys. Static hazards and gun turrets could also cause you problems, while some drops off-screen will cost you a life if you misjudge them.



Give those bad guys time, and they'll come to you. (Inset)Even at full stretch, that claw'll easily lift your weight.

The game's got plenty of surprises up its sleeve, with faster and meaner opponents showing up as you move through the levels. It's also got a clever solution to the end-of-life dilemma so many games have. Rather than sending you back to a fixed restart point when you die (which causes time limit problems) or bringing you back to life exactly where you died (which can put you in a death loop) it parachutes you back into the action.

You can steer from side to side as you float down, pick the landing spot you want, and then press fire to ditch the chute. You'll then drop onto the platform below, complete with short-term invulnerability to get you back in the swing of things. This lets you make a little progress to sugar the pill of dying – but with only four lives, it's not a cheap way of gaining ground.



Catch that falling crate for extra points – or just concentrate on staying alive!

How such a simple game structure as this can end up so insanely addictive is something of a puzzle. The claw action is brilliantly animated to be sure, but its long-term attraction lies more in the flexibility of the swinging and climbing it offers. Learning just what your bionics can do takes a while, and the wide high-rise game layouts offer enormous potential for experimenting with different routes.

Quite simply, *Bionic Commandos* offers you the freedom to explore and to work out your own tactics – and that's like a breath of fresh air in the world of today's coin-op conversions.

● Andy Wilton

RELEASE BOX

C64/128	£9.99cs, £11.99dk	OUT NOW
SPEC	£8.99cs	IMMINENT
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ST, Amiga and PC versions under development

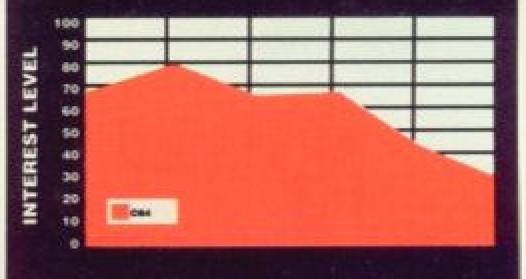
C64 VERSION

There may not be quite the colour of the arcade original, but with its great animation and the Commodore's famed scrolling abilities this version's very presentable all the same. Let's hope the game's as good on other formats!

GRAPHICS	8	**IQ FACTOR**	3
AUDIO	6	**FUN FACTOR**	9

ACE RATING 838

PREDICTED INTEREST CURVE



This one really gets its claws into you!

STIR CRAZY FEATURING BOBO

Cartoon convicts from INFOGRAMES

YET more cartoon-based antics from Infogrames, as French *bande dessinée* hero Bobo attempts to break out of the notorious prison Inzeslammer. That name should warn you of what's in store; it's wacky and jaunty, but somewhat lacking in what we English might call long-term playability.

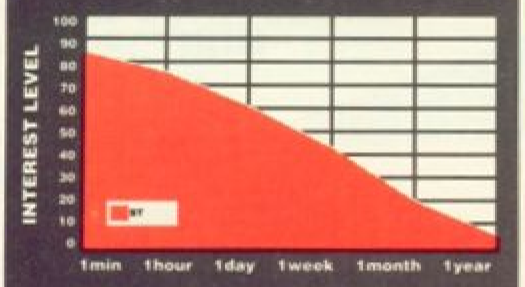
Bobo has to go through six separate games to reach the outside world. First of all he has to serve soup to the grizzled inmates, followed by a bout of spud bashing (lots of old-fashioned joystick waggling here). He then moves on to washing a floor constantly muddied by dogs, convicts and warders.

Then you get the most entertaining section, where he has to bounce his chums over the walls by swiftly moving a trampoline as they jump out of windows. Off then to the electrical wires for a simple move-left-and-right section, and then you finish up in the dorm trying to stop your mates from snoring; you rush around nudging them and trying to avoid the (full) chamber pot on the floor.

All this is done in very pretty cartoon graphics, to the accompaniment of some great jaunty music. One or two sections are jolly enough, but there's not enough there to make a satisfying game for anyone over the age of 10. Unless, perhaps, you're French.

● Pete Connor

PREDICTED INTEREST CURVE



Great fun – for an hour or so.

RELEASE BOX

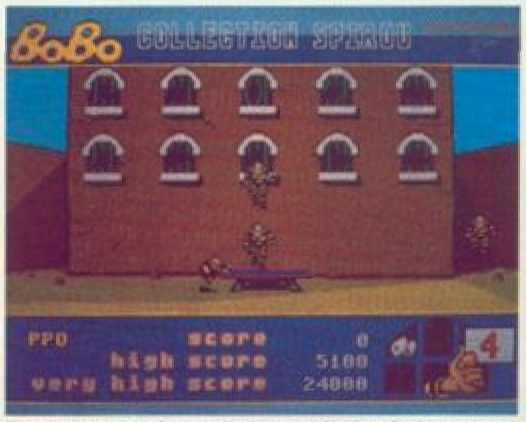
ATARI ST	£19.95dk	OUT NOW
AMIGA	£19.95dk	IMMINENT
IBM PC	£19.95dk	IMMINENT

ATARI ST VERSION

The graphics are obviously based very closely on the cartoons – not that we've seen those. They're very pretty, and very well animated. There just isn't enough of them. The music is excellent, a truly manic accompaniment to what is certainly a zany game.

GRAPHICS	8	**IQ FACTOR**	1
AUDIO	9	**FUN FACTOR**	7

ACE RATING 570



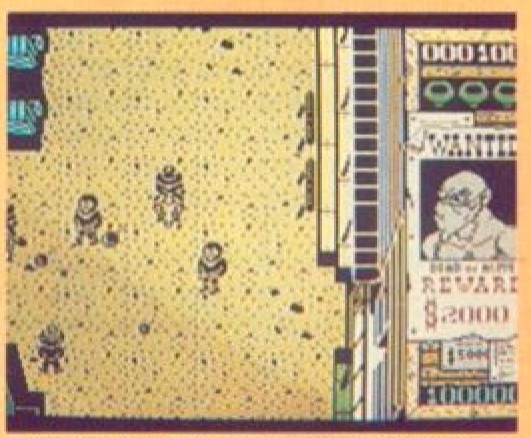
That's three convicts you've got up in the air; but can you get them over the walls?

GUNSMOKE

GO! Get 'em Floyd

RELEASE BOX

SPEC	£8.99cs, £12.99dk	OUT NOW
AMSTRAD	£9.99cs, £14.99dk	IMMINENT
C64/128	Under development	



Beware that chap on horseback – he'll start lobbing bombs at you.

WYATT Earp you ain't, but some overworked and underpaid sheriff you is. You've got five stages (four on some versions) to complete, and some mean gun-toting critters to avoid.

The first stage is a continually vertically scrolling shoot-em-up set in a western town. Baddies come from the top and bottom of the screen and the idea is simply to shoot them before they shoot you. Extra benefits are available in the game by shooting stars found lying on the floor – you don't get a helpful benefit every time though so you have to be careful when approaching the shot stars. At the end of each level there's a particularly vicious baddie to dispose of before you proceed to the next level. On Level Two you're trying to cause as much damage as possible to the railway station. Survive this and next you're on your way down a canyon full of blood-thirsty injuns! The next stage has you shooting the rapids avoiding alligators, indians and a host of other hazards, before you finally come face to face with a young scamp lobbing boomerangs at you in a very determined fashion. Complete all the levels and you can rest assured that the remainder of the citizens can sleep soundly in their beds.

Gunsmoke offers nothing more than the average shoot-em-up, except some poor animation and annoying gameplay. The inability to turn round and shoot baddies that are coming up behind you is particularly annoying. There's nothing here to get the adrenalin pumping for very long.

● Andy Smith

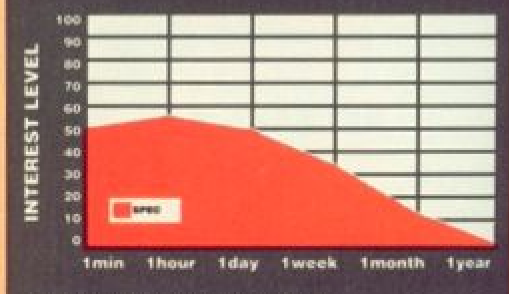
SPECTRUM VERSION

The sprites are all black and rollerskate unconvincingly around the place. Sound effects are poor and don't do anything to add excitement. As shoot-em-ups go, this is not one of the best.

GRAPHICS	4	**IQ FACTOR**	1
AUDIO	3	**FUN FACTOR**	4

ACE RATING 428

PREDICTED INTEREST CURVE



Nothing much in here to shout about.

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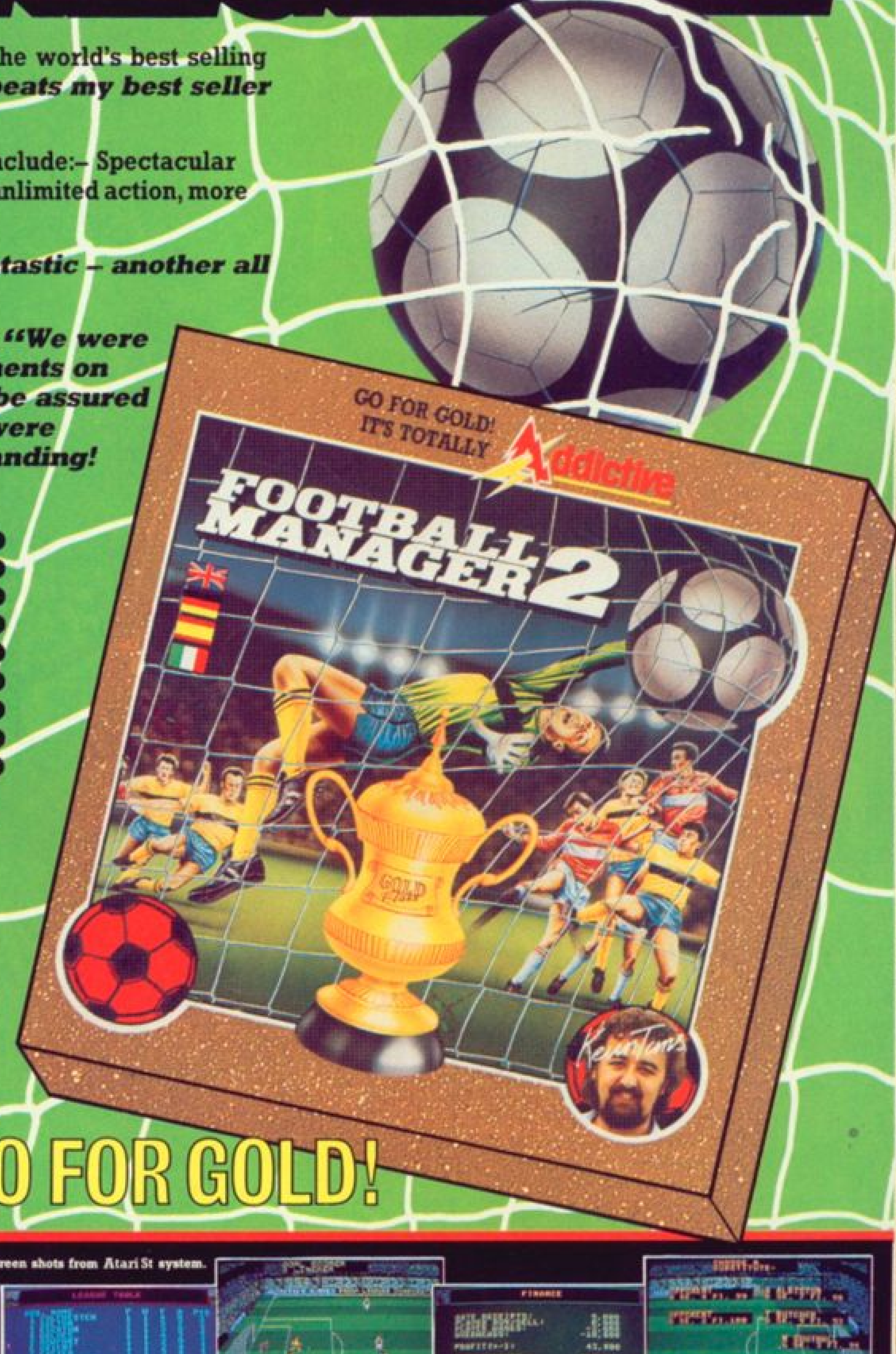

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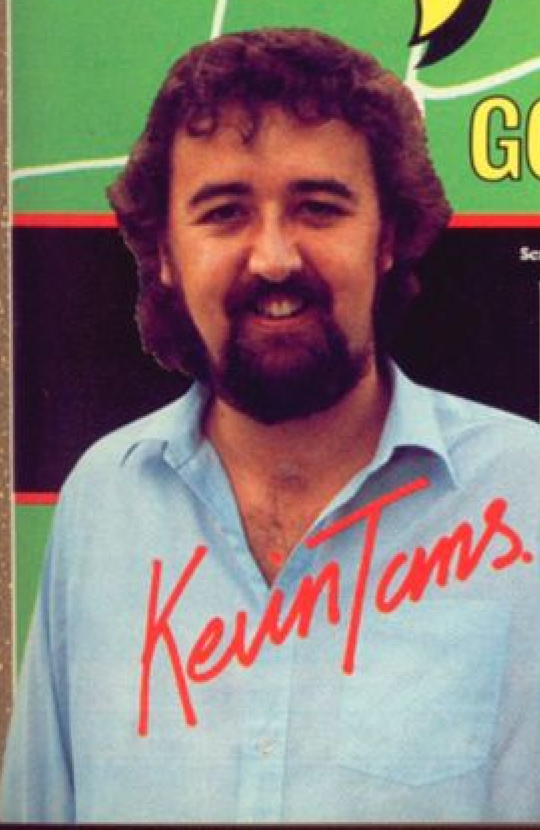
GO FOR GOLD!

Screen shots from Atari St system.



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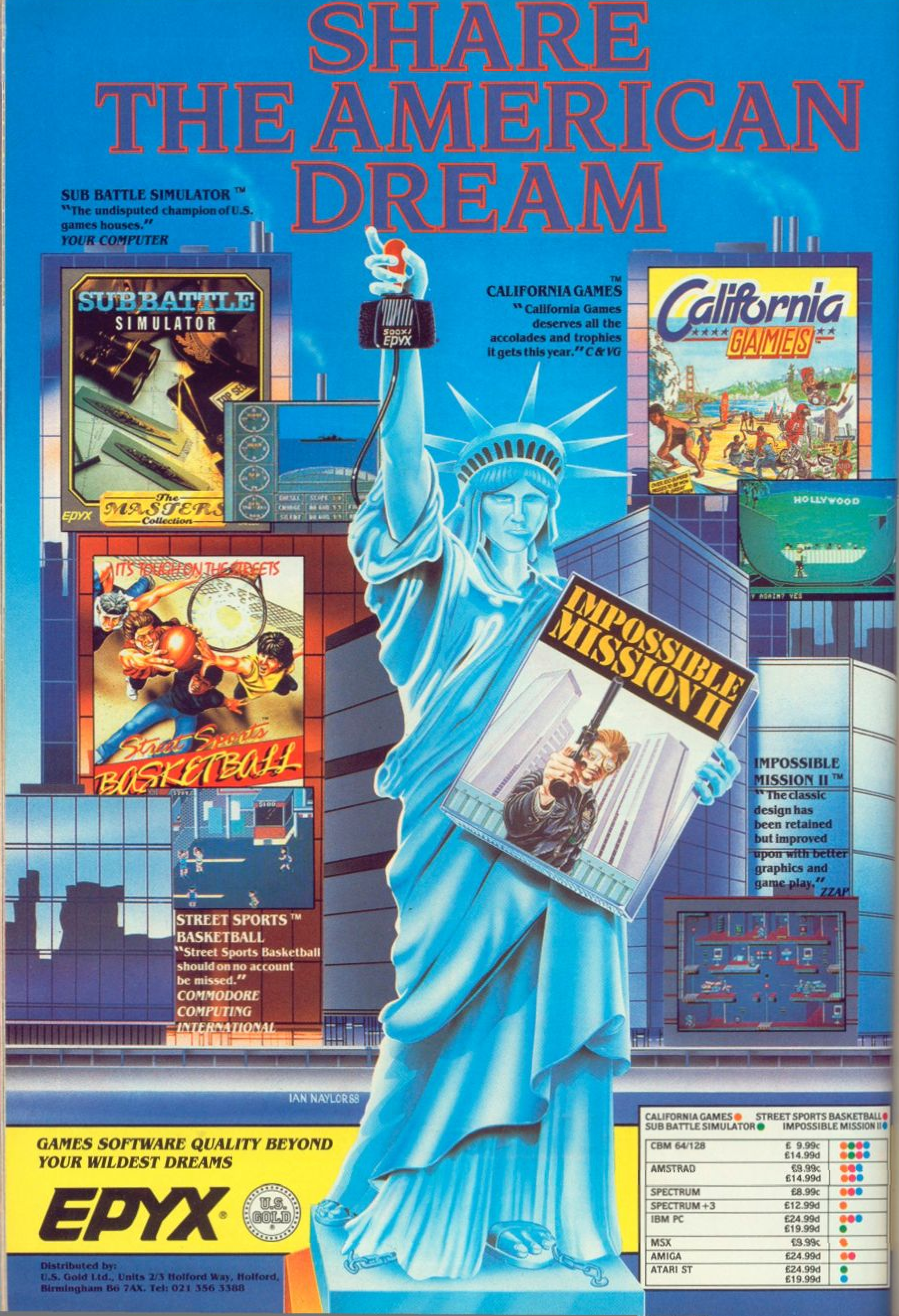
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EARTHLIGHT

FIREBIRD would like to fly you to the moon

THE moon may not be made of cream cheese but a large portion of the surface would appear to be chequered. That's if Pete Cooke's latest game is anything to go by (Pete's the chap who brought us *Tau Ceti, Academy* and *Micronaut One*).

In the game you play Slaatn, a common or garden alien who was happily blasting his way through the solar system until his ship was dragged off course and forced to land on the moon. Slaatn's only hope of escape is to disable the moon-based transmitters that made the force field that forced him down in the first place.

The game breaks down into four levels, each consisting of eight zones. Each zone contains a set number of transmitters (small boxes on the surface) which the player must pick up with his ship to clear the zone. No problem – simply fly into them. Dodging the surface features – varying in shape and size from telegraph pole-like thingies to craters, plus the various droids – *is* a problem though. The landscape scrolls sideways while your ships stays in the centre of the screen, though you can move it from foreground to background to dodge obstacles.

At the start of each zone you can alter the ratios between the ship's fuel, shield strength and ammunition levels. Some zones have the transmitters widely spaced so you'll have to do make do with less ammunition and shield strength for the extra fuel you'll need to reach them and still return. For other zones you'll need plenty of ammo to blast your way through hosts of droids.

Earthlight boasts some stunning graphics and sound effects and a big task to complete, but each zone is very much like the last and it soon becomes something of a slog to complete the levels.

● Andy Smith

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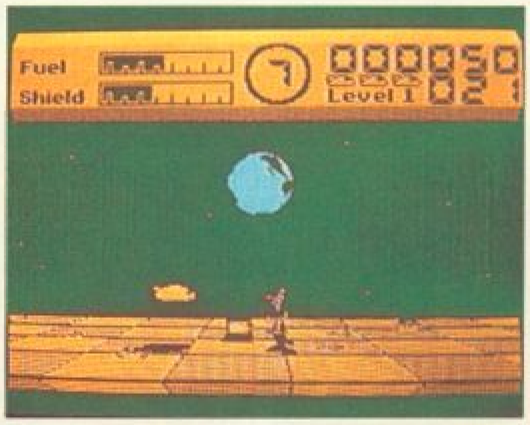


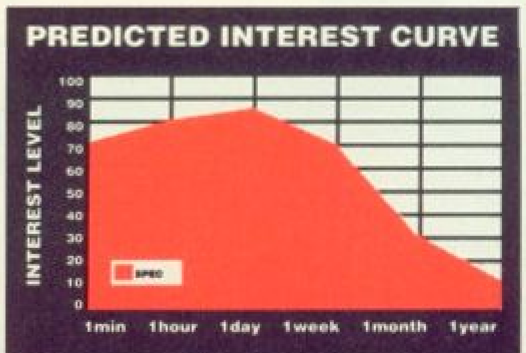
Zone seven on level one - collect that transmitter (the small box), head for home and you'll have completed a zone.

SPECTRUM VERSION

The graphics are first rate, as are the sound effects, and the game plays very well. There's just not enough variety in the zones to keep you going though.

GRAPHICS	9	**IQ FACTOR**	3
AUDIO	8	**FUN FACTOR**	7

ACE RATING 725



Good, playable stuff that unfortunately suffers from lack of variety.

ACTION FORCE II

VIRGIN have another bash at some baddies

WATCH out Cobra, here come the Action Force (again). This *Prohibition*-type shoot-em-up puts the life of one of Action Force's best men in your hands. You play the part of upstanding Action Force agent Airtight, and it's your job to protect your buddy Quick Kick from Cobra terrorists.

The evil Cobra fiends are holding a whole bunch of hostages in the slums of the city. Quick Kick starts his rescue mission at the base of a building and will climb his way to the top, regardless of any hidden dangers. It's up to you then to look out for him and ensure he comes to no harm by guiding an on-screen cross-hair sight and picking off the Cobra terrorists who appear in windows, doors and even dustbins.

If Quick Kick makes it to the top of the building some hostages will be freed and picked up by an A.F. helicopter and ferried to safety. The player then gets to choose what weapon he should use for the next building. The weapons include a machine gun, a bazooka and what's called a Bio-gun. Each weapon has its advantages and disadvantages, so choose carefully. Every third level of the game puts the player up against a Cobra tank. To defeat this the player has to waggle the joystick to fire a set number of shots within a time limit – fail to do this and Quick Kick loses one of his initial three lives. Failure to shoot the terrorists before they shoot at Quick Kick also loses him a life, as does allowing him to run out of energy. Shooting Action Force flags pinned to the walls enough times replenishes the energy.

Although the game style is not original and it doesn't take long to learn the whereabouts of the enemy on any particular level, it's playable stuff with plenty of that 'just one more go' addictiveness.

● Andy Smith

RELEASE BOX

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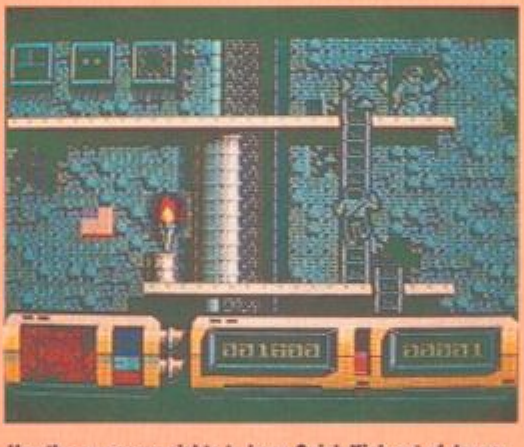
SPECTRUM VERSION

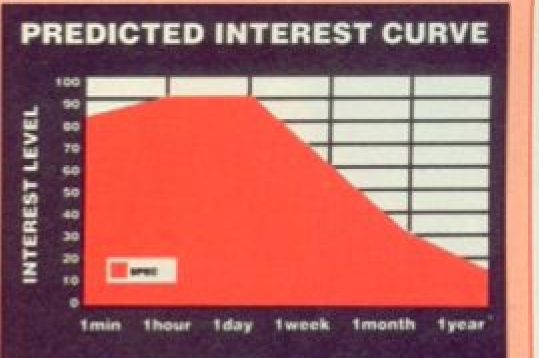
The graphics are superb and the game plays very well. It doesn't take long to get hooked but the repetitive nature of the game means you will eventually tire of it.

GRAPHICS	8	**IQ FACTOR**	1
AUDIO	7	**FUN FACTOR**	8

ACE RATING 754



Use the on-screen sights to keep Quick Kick out of danger.

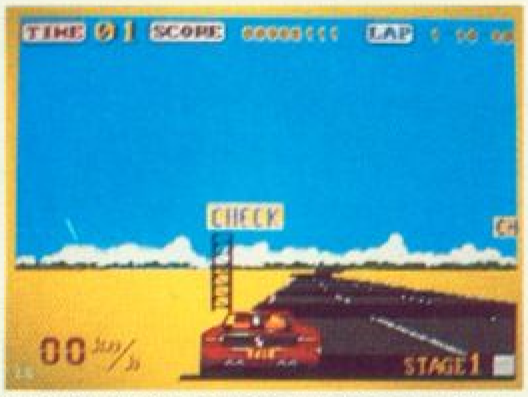


Frustratingly addictive – at least in the short-term.

OUT RUN

UPDATE SPECIAL

ATARI ST ● US Gold £19.99dk



Tearing through the checkpoint earns you an extra 60 seconds - and a change of scenery too!

AFTER a weak showing on the C64, a poor Spectrum performance and an Amstrad version little short of dismal, this (predictably) blockbusting game finally makes it onto the ST and – it's great!

As ever, you have to drive your bright red Ferrari Testarossa as far as possible, as fast as possible. You're racing against the clock over rolling hills and round sweeping bends, pouring on the power the whole time and desperately weaving through traffic. Junctions at the end of each highway section offer you a choice of routes to any one of five finishing lines, but in the short term your goal is the next checkpoint. Make this before the clock reaches zero and you'll get another sixty seconds in the race; fail and it's game over.

There's no system of lives or damage, but collisions with other cars or roadside obstacles can stop or crash you – the latter sends you spinning, or even tumbling end over end – burning up precious seconds as you get back up to speed. Careful use of gears can help – you've only got two, so this isn't exactly complex – but for the most part the game's just a question of learning the curves and steering them.

This is one of the better ST racers on offer, and just shows what the machine can do with careful programming. The coin-op was always going to be a toughie to convert, but unlike the 8-bit versions this one really does catch the spirit – and much of the excitement – of the original.

● Andy Wilton

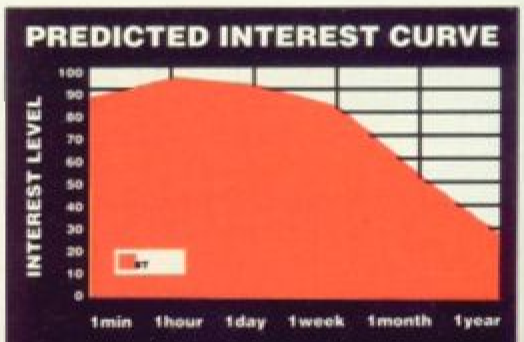
ATARI ST VERSION

A great impression of speed and some spot-on music more than make up for the lengthy loading between stages. Variable traffic density will help keep you playing, and those route choices also help on this front.

GRAPHICS	9	IQ FACTOR	2
AUDIO	6	FUN FACTOR	8

ACE RATING 873

PREDICTED INTEREST CURVE



Even with extra traffic, you'll burn it out eventually.

JET

UPDATE SPECIAL

AMIGA ● Sublogic – import only, prices vary

An old standard on the IBM PC, this one's up against much tougher competition on the Amiga. Though rooted in the *Flight Simulator* and *Flight Sim II* tradition, it's combat orientated and leans towards playability rather than realism. The choice of planes – you can fly a ground-based F-16 or a carrier-launched F-18 – puts the game head to head with EA's *Interceptor*, and the comparison does not all go in *Jet*'s favour, to put it mildly.

For starters, *Jet* loses out visually. The frame rate is none too high, and the graphics are far from subtle. There's no attempt to show a realistic instrument panel, out-of-cockpit views are limited and the colours used in the display are rather unconvincing. There is the same picture-in-picture facility *Flight Sim II* had, mind you, if you want (say) a view out of the cockpit and one inside it at the same time.

The action isn't without its problems either. In dogfights you have no defence against incoming missiles, having to rely on tight turns or steep climbs to escape the MiG-launched Atolls fired at you. This evasion is a rather messy business and none too reliable either, making combat a rather hit-and-miss affair.

On the plus side you do get to bomb ground targets if you like that sort of thing, and there's a comms option that lets you hook up two machines and slug it out against a human adversary. On both these fronts, however, you'd be well advised to wait and see how Spectrum Holobyte's *Falcon* turns out on the Amiga – if these features are vital to you, that is. Otherwise, *Interceptor*'s probably your best bet: *Jet* costs more, doesn't play as well and simply isn't in the same league for graphics or sound.

● Andy Wilton

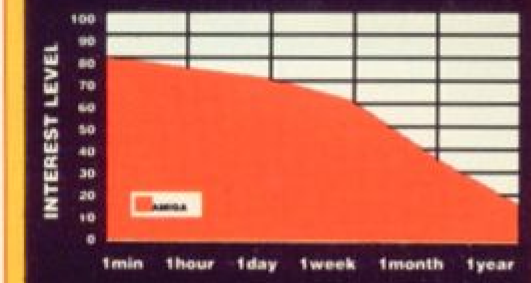
AMIGA VERSION

On presentation, this is a long way short of the machine's capabilities. The Amiga can produce better screens, and animate them faster into the bargain.

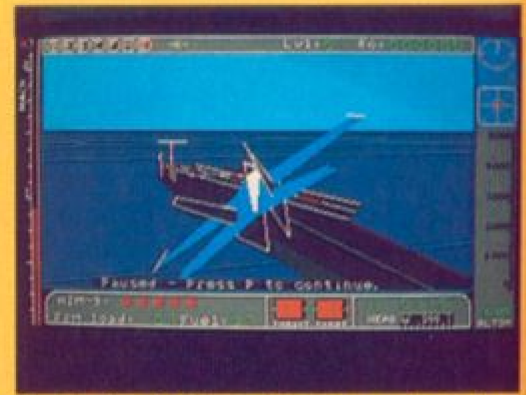
GRAPHICS	7	IQ FACTOR	3
AUDIO	3	FUN FACTOR	5

ACE RATING 684

PREDICTED INTEREST CURVE



More realism would have helped hold your attention.



The view from behind your Hornet, as you fly back over your carrier (Compare and contrast with *Interceptor*, pp 44-45).

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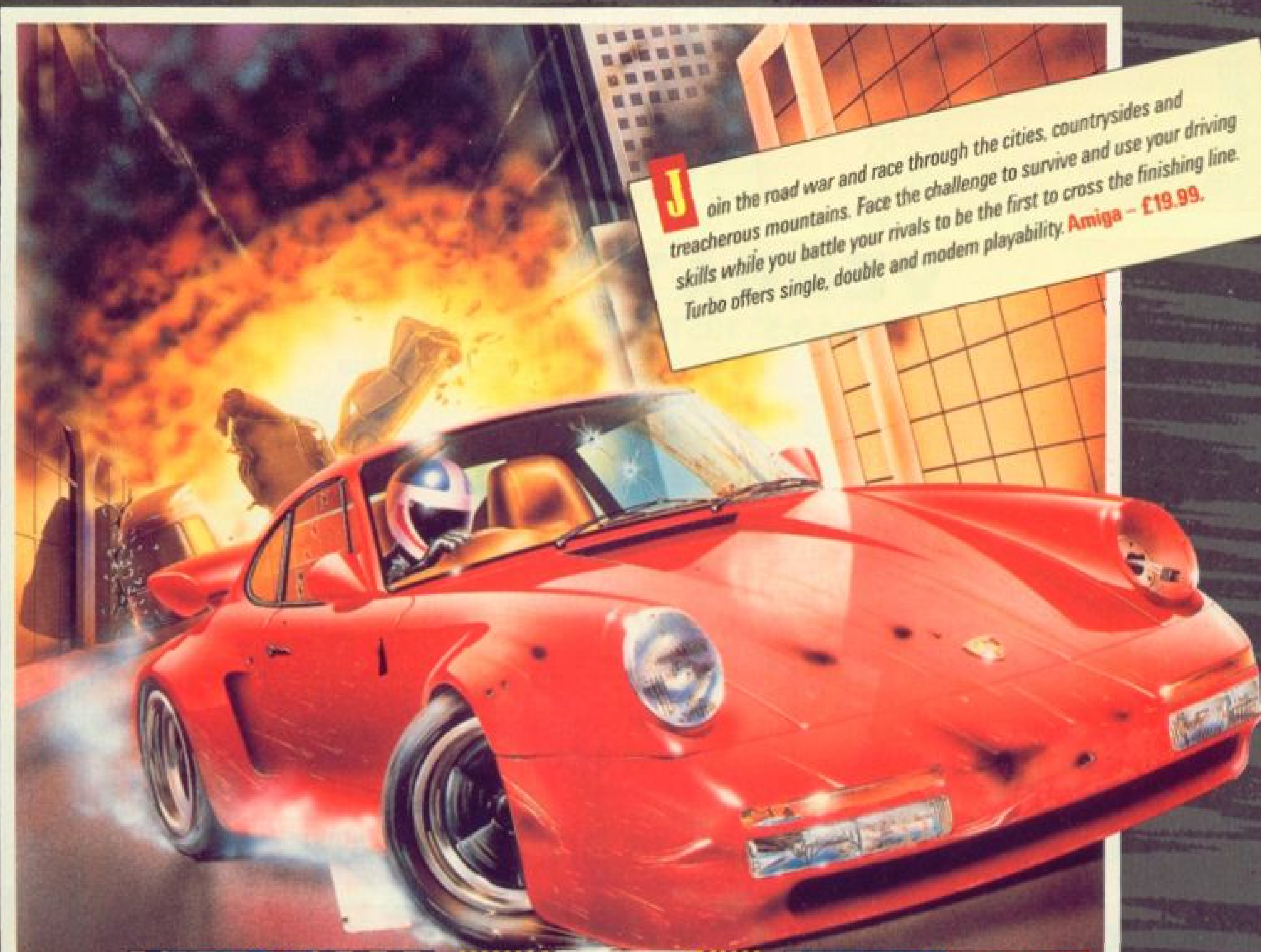

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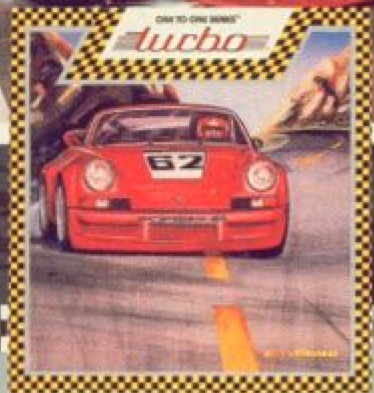

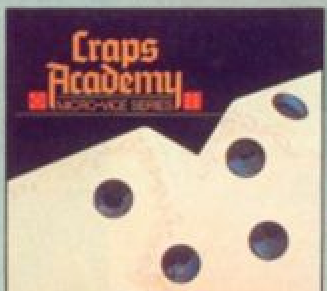

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This month's version-changers include a brace of oldies finding new life on the 16-bit scene – and when we say old, we mean it! *Captain America* (just when you thought it was safe to go back in the Doom Tube) got a mixed reception in its 8-bit incarnations, but even the critically acclaimed *Thundercats* is all but forgotten now. Also up for grabs are the umpteenth version of *Tetris*, some violent goings on courtesy of *Target; Renegade* and a couple of very snappy *Captain Blood*s. Get 'em while they're hot!

AMSTRAD

CAPTAIN BLOOD

Infogrames £9.95cs £14.95dk
Atari ST version reviewed issue 7 – Ace Rating 887

As ever, the French manage to get more out of a CPC than most people get out of an ST – as far as graphics and sound are concerned at any rate. The gameplay's the same as the original – converse with aliens across the galaxy as you search out your clone siblings – so there's still the fascination of a complex icon system to experiment with. There are still those nagging doubts about the thing's lasting interest too, come to that, but the look of it will overcome most people's reservations.

● ACE RATING 875

ATARI ST

THUNDERCATS

Elite £19.99dk
Spectrum version reviewed issue 3 – Ace Rating 931

And you thought ST *Out Run* had been in the pipeline a fair old time! The 8-bit versions of this feline sideways-scroller were in the shops before Christmas, but Elite have clearly taken their time working it up onto the ST. No bad thing, that – the bright, well-drawn graphics are a sure sign of time well spent – but the game's scene has moved on, and if anything the action and animation have lost a certain something. In its simplicity the game's still unquestionably very addictive stuff, but bearing in mind the ST's enormously greater power you might have expected a little more.

● ACE RATING 895

CAPTAIN AMERICA

GO! £19.99dk
C64 version reviewed issue 3 – Ace Rating 653

The multi-level Doom Tube of Dr Megaloman is still housing a nasty virus missile and as Captain America it's still down to you to save the world etc etc. The graphics are good but the game's dull, the puzzles that appear during the game do little to keep you interested and though it's not a terrible game, it's certainly not an outstanding one either.

● ACE RATING 553

TETRIS

Mirrorsoft £19.99dk
C64 version reviewed issue 5 – Ace Rating 956
IBM PC version reviewed issue 7 – Ace Rating 907
Spectrum version reviewed issue 7 – Ace Rating 874
Amstrad version reviewed issue 7 – Ace Rating 716

One of the most converted games around, the Russian geometrical brain-mangler at last makes it onto the ST, and pretty disappointing stuff it is too. There's plenty of colour and the music's nothing to grumble about, but the overall playing feel is poor. Controls are sluggish and erratic, while a fake 3D effect makes shape alignment difficult without adding anything to the game's appeal. It's a poor show indeed when the Spectrum and C64 versions can both beat the ST for playability.

● ACE RATING 842

IBM PC

CAPTAIN BLOOD

Infogrames £24.95dk
Atari ST version reviewed issue 7 – Ace Rating 887

That intrepid clone-hunter Captain Blood takes to the space lanes once more, this time in CGA-only cyan and magenta. Don't let that put you off too much mind you, because those skillful French artists have done themselves proud with these four-colour masterpieces. The action's still as weird and wonderful as ever, with a marvellously animated cast of aliens and an impressive vocabulary of conversational icons. Fun stuff, if not necessarily a terrific one for lasting interest.

● ACE RATING 812

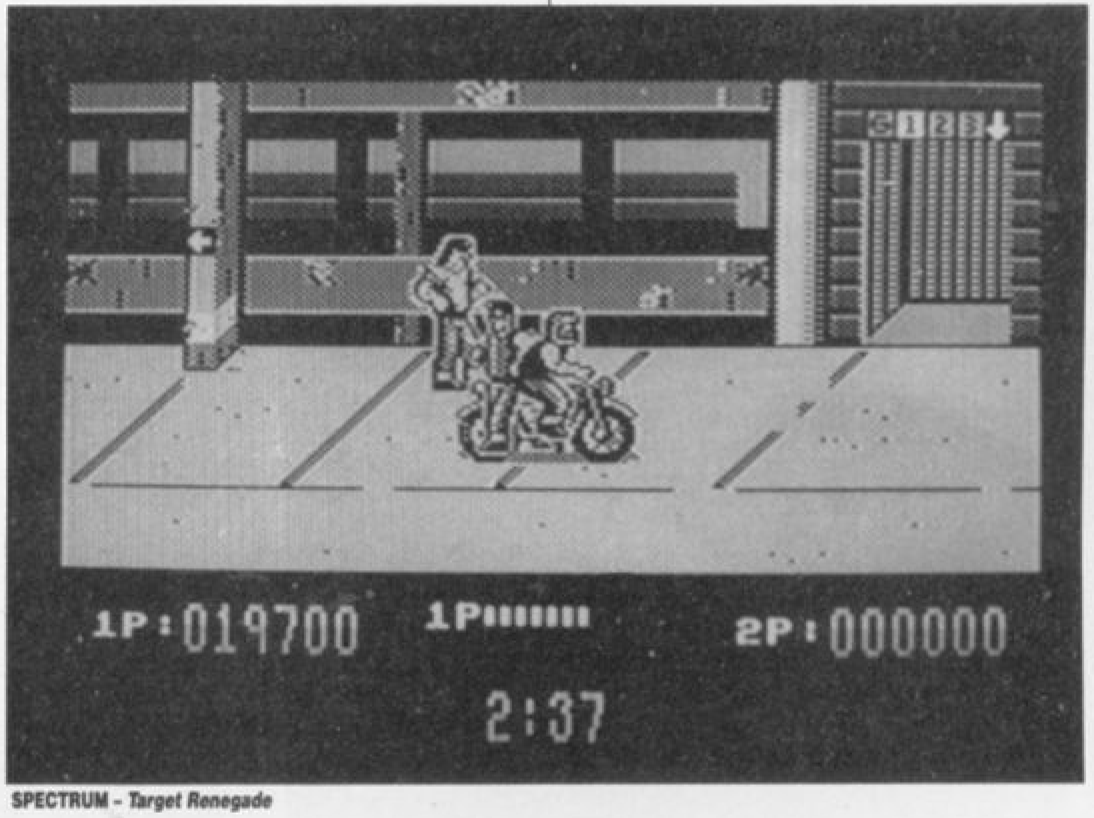
SPECTRUM

TARGET; RENEGADE

Infogrames £7.95cs £14.95dk
Atari ST version reviewed issue 7 – Ace Rating 887

This follow-up to *Renegade* probably won't take you too long to complete, which is a bit of a shame because the graphics and gameplay are great. Punch and kick your way through five vicious gangs before you confront the diabolical 'Mr Big'. There are some effective extra weapons to pick up but *Target;Renegade*'s not significantly different from *Renegade* and it's certainly won't take you as long to master it.

● ACE RATING 650



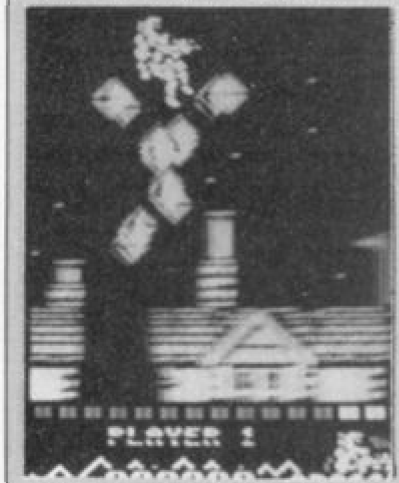
SPECTRUM – *Target Renegade*

CROSSWIZE

FIREBIRD do it sideways

DID you manage to survive the onslaught in *Sidewize*? Even if you didn't you can still take part in the sequel. This time you're saving the planet Luna from invading aliens by guiding your character as he moves from left to right across the continually scrolling landscape. *Crosswize* has good graphics and animation and the game plays well, but it's still dull stuff that lacks addictiveness.

● Andy Smith



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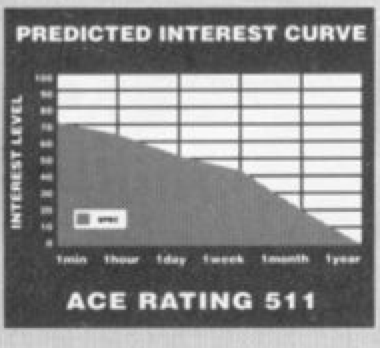

PREDICTED INTEREST CURVE

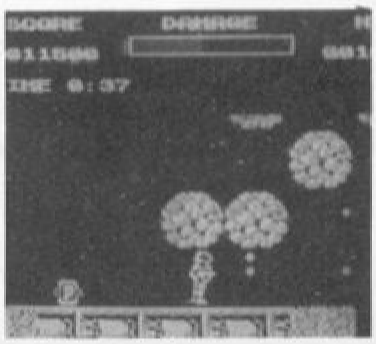
ACE RATING 511

SOLDIER OF LIGHT

ACEs low

THIS is very much like Crosswize and every other sideways scrolling shoot-em-up. Platform elements creep in at times and some particularly vicious nasties need destroying – it's a good job you can pick up extra weapons then. *Soldier of Light* boasts some good graphics and OK animation, but ultimately it's just another run of the mill shoot-em-up that won't get you too excited.

● Andy Smith



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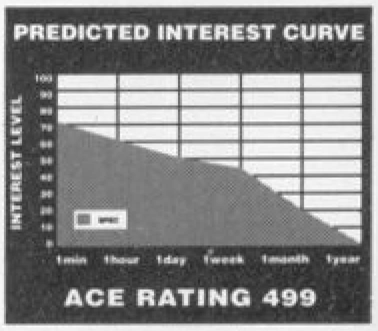
PREDICTED INTEREST CURVE

ACE RATING 499

ROAD WARRIOR

CRL get a punture

YOU'RE a one-man-army up against a vicious gang of bikers who are on their annual death race. Use the gun mounted on the front of your car to blow 'em off the road. You have to make sure you don't run out of fuel before you've destroyed the set number of bikers for that particular stage – it only takes one bike to mow you down as you run for petrol. *Road Warrior*'s got nothing that hasn't been seen or done before, and it soon becomes tedious to play.

● Andy Smith

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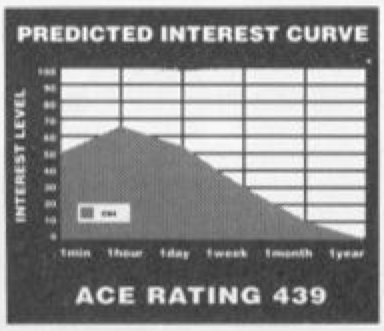
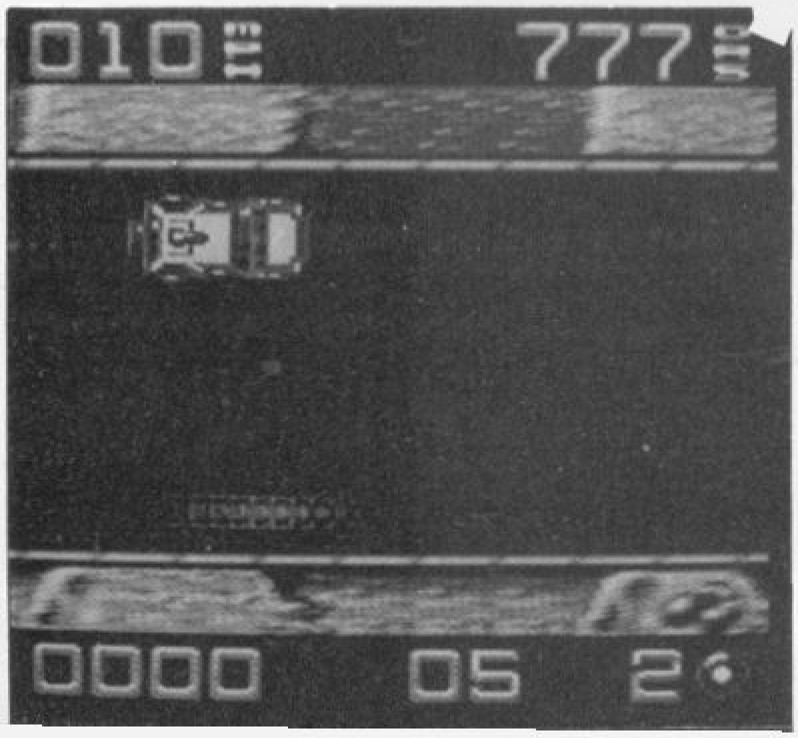
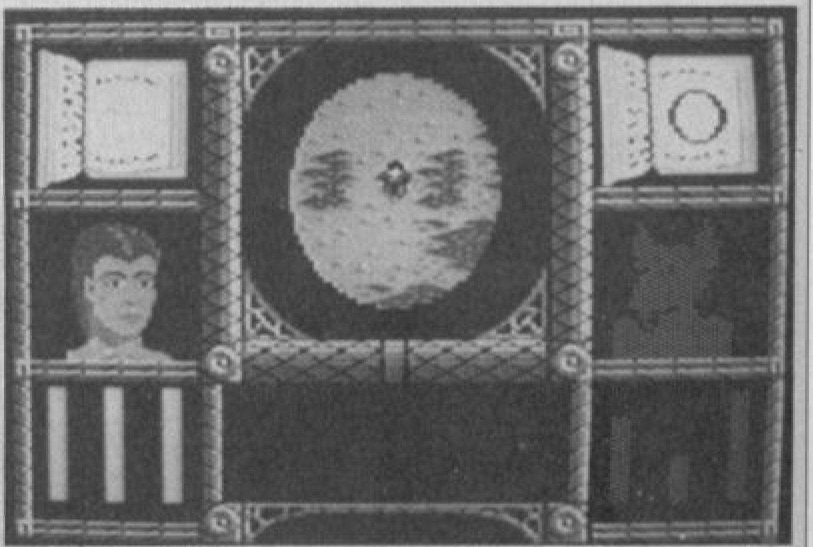

PREDICTED INTEREST CURVE

ACE RATING 439



WIZARD WARZ

GO! get into RPG



RPG on three levels is what *Wizard Warz* offers you. A plethora of spells and qualities is available to help you defeat the seven wizards and ascend from junior to senior wizard in the process. It's fairly standard stuff as RPG goes, with a lot of trolling around, monster combating and spell selection. The presentation isn't bad, with a novel element being the 'window' through which you view the action.

● Pete Connor

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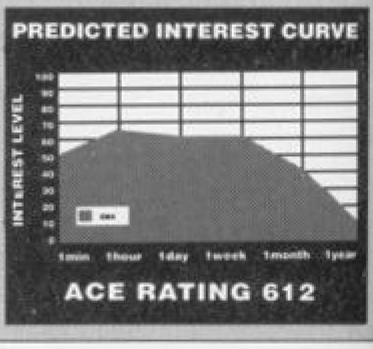
PREDICTED INTEREST CURVE

ACE RATING 612

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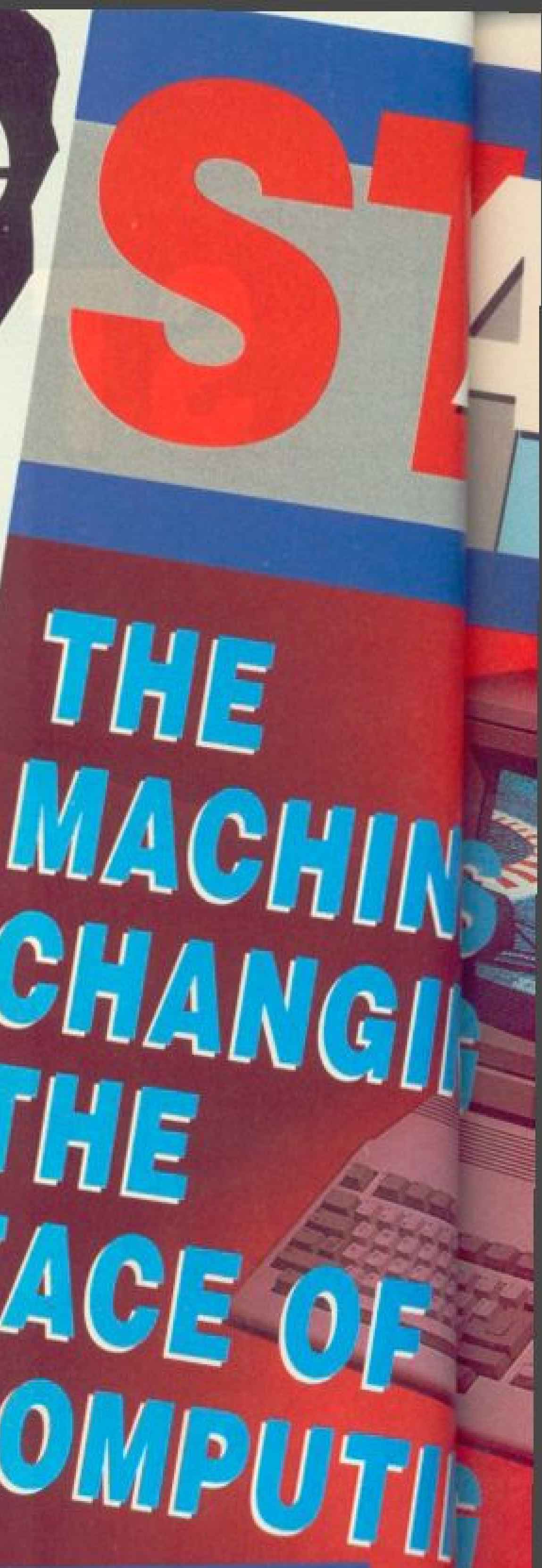

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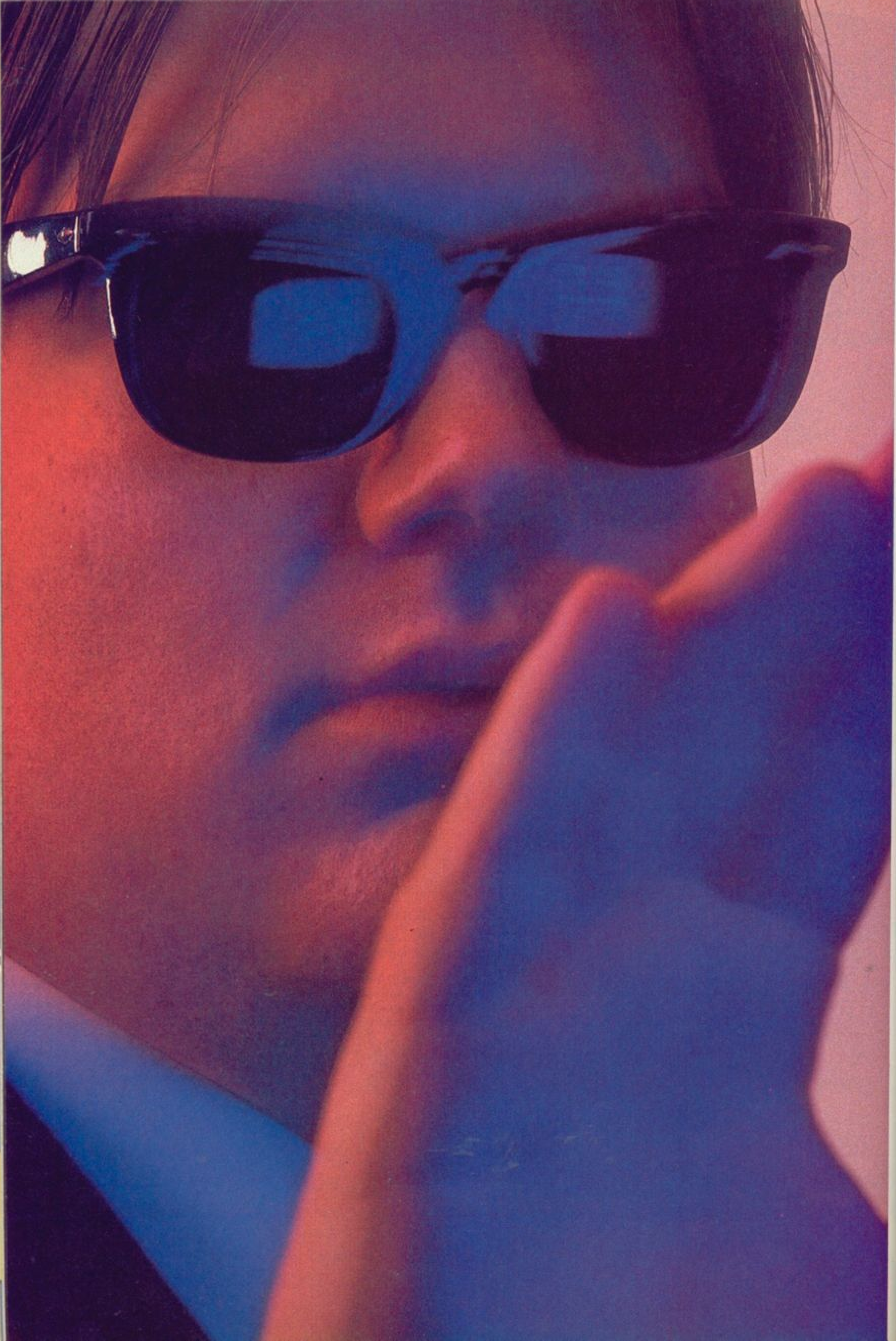


HACKING

While most of us are using our micros for playing games, running art packages, making music or whatever, a small group of technically skilled people are making their own computer entertainment in far stranger ways. They're dismantling programs to see how the things work; they're logging on to computer systems they aren't supposed to have access to; they're creating twisted 'practical joke' programs that wreck other people's disks. They're hacking.

To most of us, hackers are mysterious creatures with seemingly limitless powers. What they're really doing is pushing their equipment to the limit, in a bid to gain as much control as possible: control over their own machines, over games they've bought and don't want to lose lives in, over other people's online mailboxes, even over other micros. Is this megalomania? Or is it just normal human behaviour showing itself in unfamiliar, computerised forms? And can these people really do all those things you hear about?

● LOGGING ON

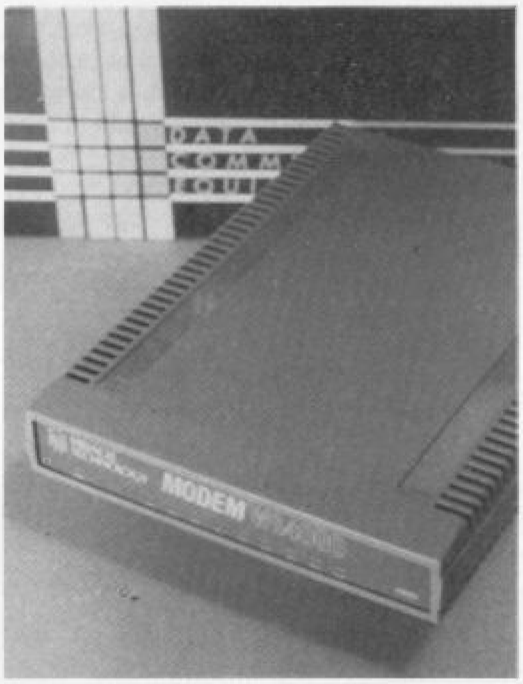
Hacking covers a lot of different computer activities, but the one that really hits the headlines is illicit logging on: gaining access to private online systems, or the private areas of public ones, by underhand means. The popular image of the down-the-phone hacker has him altering the balance of his bank account – or possibly even of world power – from the comfort of his own home, using some incredibly complex techniques to take control of other people's computers.

The facts are somewhat less glamorous. Most major computer crimes are inside jobs. Outside hackers usually do it for kicks, gaining access by guessing, overhearing or simply being told someone else's password. As for gaining control of someone else's system, this usually works only on small, privately owned online systems – usually referred to as bulletin boards. Even on these 'BBs' a hacker has to rely on the owner's carelessness in running a 'Trojan horse' program – see 'Greeks Bearing Gifts' – but then carelessness lies behind most hacks. Choosing passwords at random, changing them frequently and distributing them sparingly is usually all it takes to keep hackers out.

ONLINE LAW

The House of Lords, the highest court in the land, decided in April that it isn't fraud under English law to log on to an online system using someone else's ID or password. The decision finally resolved the long-running 'BT hack' case in favour of Steve Gold and Robert Schifreen, two comms enthusiasts – now successful computer journalists – who hit the headlines by hacking into the Duke of Edinburgh's Telecom Gold mailbox (among other places).

Their Lordships explained the judgement in very narrow terms – the whole thing turned on whether you can call something an 'instrument' if it exists only for a fraction of a second – but there's a suspicion that Gold and Schifreen's motives also had a lot to do with it. Fraud's an offence you'd normally associate with dishonesty, and their mixture of curiosity and 'mountaineering' (see box) doesn't really fit that profile.



A modem enlarges a hacker's horizons enormously: now he can do irresponsible things with other people's hardware!

Unauthorised logging on may not be fraud, but it is still illegal: the charge nowadays would be 'abstracting electricity', a relatively minor offence based on the tiny amount of extra current drawn by a system when you use it. Is this really sensible? Anyone can make an online system use extra electricity just by dialling it up. It takes a minute amount of power just to make the thing ask you for your password, and wait for the reply. Does that mean it's a crime to dial up a machine you don't even know a password for? Should it be?

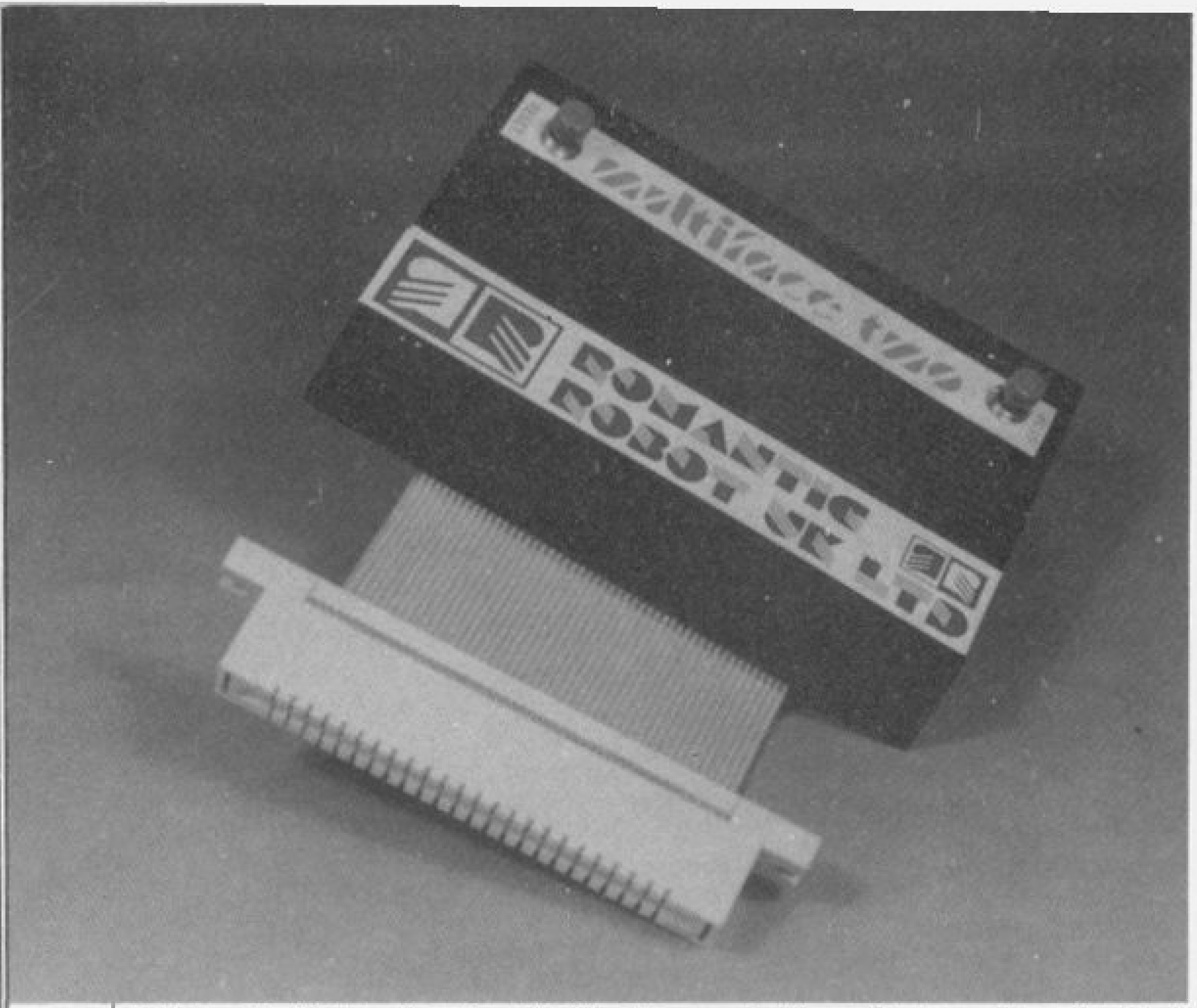
● LOGIC BOMBS

Of all the types of fun you can have with computers, making them go wrong on somebody else – or lots of somebodies indeed, people you've never even met – has to be one of the most warped. It's popular though, almost as popular among people with the right skills as protection-busting or illicit logging-on. The exotic names given to the different types of 'practical joke' programs – the straightforward logic bomb, the Trojan horse and the oh-so-fashionable virus – mask a simple truth: there's a handful of very antisocial computer users out there, 'mean kids' who would probably, but for computers, spend their spare time drowning cats in the local pond.

Ironically enough, the destructive program originated as a kind of over-enthusiastic protection device. Wouldn't it be nice, the reasoning went, if a pirate copy of a commercial program could tell it had been pirated and erase itself? Better still, what if it could hurt the pirate in the process

MEAN KIDS

Did you ever burn ants using a magnifying glass? Did you ever pull the wings off a fly? Lots of kids have a mean streak to them, being unnecessarily nasty without any real idea just how much harm they're causing. Sadly, a minority of hackers never grow out of such things, and end up using their knowledge to ruin other people's enjoyment of computers. On large networks or online systems they'll try to wreck other users' files. On the public domain circuit they'll create logic bombs, or distribute ones they've come across. If you've written a virus, you probably know enough to create games or utilities that might be of some use to the world – but to a mean kid, doing something useful with your talent is hardly a priority.



Magic boxes like this CPC one have changed the 8-bit poking scene out of all recognition. For mountaineers, they take all the fun out of things: for curiosity-driven hackers on the other hand, they speed things up enormously.

CURIOSITY KILLED THE CAT

When a mountaineer sees a game, he sees a challenge. When a magpie sees a game, he sees a shiny thing he absolutely must have. Both these points of view are offshoots of the real, driving compulsion at the heart of hacking – simple curiosity. Did you ever pull a watch apart to find out how it worked? Are you fascinated by the inner workings of musical instruments and kitchen equipment? Then you should try hacking: a computer game's a hundred times more complex than any watch yet built, and you can fit it back together all kinds of different ways! Wading through piles of assembler listings long into the wee small hours, struggling to unravel tightly packed machine code whose purpose you only vaguely understand, rummaging through enormous (and badly laid-out) technical manuals – that's the real stuff of hacking!

– by wiping his hard disk for instance – to punish him? After all, that hard disk was probably packed (along with months of irreplaceable work) with other pirated programs. It's doing society a favour to trash them, isn't it?

Writing such a program isn't that hard, but it also isn't very nice or particularly smart: after all, pirate copies can be used by innocent people. What's more, tales abound of logic bombs going off (because of bugs) even when there hasn't been any piracy in the first place. As with most forms of taking the law into your own hands, vigilante-ware like this turned out to be far nastier than the problem it was supposed to solve.

If logic bombs like these – destructive pieces of code that go to work when they spot 'trigger' conditions – are too dangerous to be used as protection devices, they're tailor-made for computer vandalism. The only problem lies in getting the bomb to as many potential victims as possible. In the world of the IBM PC and its compatibles, the answer to this one was simple. Public domain software for the PC circulates freely on disks and BBs (bulletin boards), so smallish programs can travel a long way if they sound interesting or useful. Dress a logic bomb up to look tempting and who knows how many idle browsers you can hurt?

GREEKS BEARING GIFTS

For obvious reasons, bombs designed to look harmless and encourage their own distribution are known as Trojan horses, or just Trojans for short. The original Trojans were programs uploaded (i.e. sent down a phone line) to bulletin boards by hackers. If the BB's operator ran such a Trojan it would expose the BB's secret files – including its user passwords – to the hacker's gaze. Nowadays Trojans usually just wipe disks, often erasing themselves in the process to make detection that much harder.

The problem with Trojans is that they tend to need help in spreading. People will accept software without being quite sure what it is, but they'll very rarely pass it on until they've at least had a go at running it – and that'll normally be enough to detonate a Trojan. What you need is a destructive program that spreads of its own accord, copying itself onto other disks without making itself obvious to the user. Then all you have to do is 'seed' the public domain system with the program and watch the havoc start: the virus is born.

COUGHS AND SNEEZES

The comparison between self-copying destructive programs and real-life disease organisms is an obvious one, and there are certainly strong similarities. In particular, computer virus scares produce just as much panic, confusion and ill-founded rumour as their biological counterparts. Should I take my machine back if it gets infected? Should I keep contaminated disks separate from clean ones? Is there really any such thing as a computer virus?

MOUNTAIN CLIMBERS

Mainstream hackers are Chris Bonnington types – they break into that online system or poke that game simply because it's there. The fact that people have set up password barriers or elaborate disk protection systems just increases the challenge. Catching someone off their guard isn't really cricket, but if they've taken steps to keep you out the hack becomes a contest – and that's fun!

The true mountaineer doesn't actually want to do anything once he's inside, except take a look round and maybe leave a calling card. The challenge's the thing, and once that's gone he's off looking for mountains new.

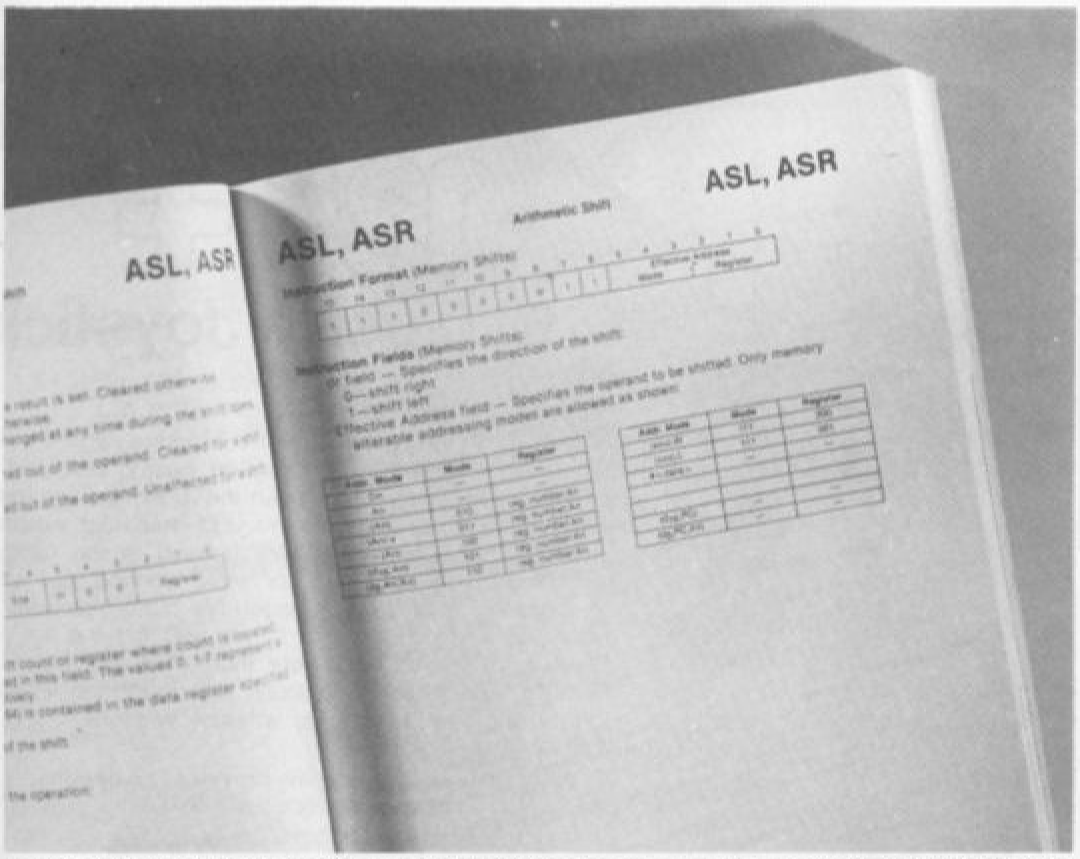
The whole storm about viruses stems from a tiny piece of program code written by a group of Swiss hackers – the self-styled Swiss Cracking Association, or SCA for short. The code lives in the 'boot sector' of an Amiga disk, a safe little niche where it won't show up on the directory and can't be deleted. From here it can load into the Amiga's memory, and create copies of itself on the boot sectors of any other disks you put in the drive. It's tenacious too – you can't get rid of it by resetting the machine – but it is only a program and can't permanently damage your machine. Switch the Amiga off and the virus is gone.

The problem here is that, when you switch the Amiga back on, you need to put a 'boot' disk in before you can use it again. If that disk has been 'infected' by the virus – has a copy of the virus code in its boot sector, that is – then you're right back to square one.

All this would add up to a fascinating model of disease organisms, if it wasn't for the virus's nasty habit of destroying disk data once it's 'reproduced' a certain number of times. With the message 'Something wonderful has happened – your Amiga is alive!', it sets about wiping whatever floppies or hard disks it can get its hands on. Mean kids of the world, eat your hearts out.

WORSE TO COME?

The SCA virus isn't actually very impressive,



Real hackers know their machines inside out, and for that they need an awful lot of big, expensive books. Where do they get the money from?

as these things go. It makes no attempt to hide itself, and can be rooted out quite easily by anyone who knows what he's doing. Systematic virus-killer programs can clean your disks of it without your needing any technical knowledge at all, and in action it's so unsubtle you'll immediately know what you're up against.

Far worse programs exist in the PC world, some of them being almost impossible to spot or identify. With PC hard disks being fairly common things, the potential damage is astronomically greater than on most home machines – and hackers have had longer to learn the PC's ins and outs.

The extreme difficulty of preventing viral or Trojan damage is out of all proportion to the effort involved in writing a destructive program. The one-sidedness of the battle just demonstrates what terrorists the world over have known for a long time: that ruining people's hard work is a great deal easier than actually doing something productive.

SURVIVING THE EPIDEMIC

Viruses live on disks. (The only way they could survive in your computer itself would be in battery-backed RAM – some machines have this kind of memory for running a real-time clock or the like – and it's hard to see how that would be possible.) The danger is from unknown disks – disks you've got from PD libraries, friends, or disks you've downloaded programs onto. To keep your disks virus-free, make sure you don't put them in a disk drive at the same time as, or after, an unknown disk. Don't transfer unknown programs to your boot disk, or to disks you use frequently: instead, copy these disks and put any unknown programs you want to use onto the copies.

Things to watch for are the disk drive accessing a disk it shouldn't need to look at – a very difficult thing to spot if you've got an Amiga – or a change in the file datestamp on a file that shouldn't have been updated, if your machine has a real-time clock. Relying on write-protect tabs may not be a good idea, and resetting the computer rather than switching it off is completely useless. As with online hacking, the best protection is being careful to the point of paranoia: virus infection can happen to you.

● POKING GAMES

Back in the good old days, poking a game was a fascinating and extremely difficult exercise in analytical thought and programming skills. To poke a game you had to break its protection system, and to do that you had to understand how the thing worked.

The lure of poking was that every game had its weak spot: there was always a way in, if only you could find it. Like the Gordian knot, a good protection system was so complex it would be almost impossible for mere mortals to figure out which bits of it did what. The potential rewards of breaking in were enormous – you could see how the game had been written, and alter it to your own tastes – so 'mountaineers' took to poking in their droves.

What the pokers were after was typically a single machine code instruction – one byte of memory out of perhaps 50,000 – that counted off the player's lives each time he died in the game. It could take a number of forms, but programmers rarely took the trouble to hide this crucial 'decrementing' process. Finding the thing was usually quite simple, but you had to get past the protection system first, and that was tough.

Those days are gone now, for 8-bit hackers at least. They were killed off not by impenetrable techniques making the task too difficult but, ironically enough, by new tools making it far too easy. 'Magic boxes', freeze frame devices designed primarily to allow easy copying of protected software, reduced the noble art of hacking to mere joyriding.

With tools like Romantic Robot's Multiface/Genie combination on the Spectrum or Siren's Hack It on the Amstrad CPC, you can lay a game's innermost secrets bare at the touch of a button. There are even programs, designed to work with these magic boxes, that aim to find infinite lives pokes for you. Where's the challenge in using one of those?

The challenge is still there on the 16-bit machines but with the 8-bit scene to set an example, it can only be a matter of time before ST and Amiga magic boxes hit the shops. Anyone for a spot of Archimedes hacking? ●

MAGPIES

It's not just the pokers of this world who take an unhealthy interest in protection systems: some hackers like to crack games open in order to copy them. Some protection schemes force you to enter specified words from a bulky manual while others make it difficult to transfer the game code itself. In either case, a little hacking skill and the right tools can soon get you an unprotected and eminently piratable copy.

The real question is, why do these people do it? Half the time, the hackers spend longer busting the protection than they do actually playing the game afterwards. Some hackers accumulate ridiculous numbers of games, so many that they end up having to wipe old ones to make disk space for new arrivals. These people are magpies, pure and simple. They just want a collection of shiny things, brand spanking new games (or even pre-release ones) to hoard and gloat over. After all, they're prettier than PG Tips cards, aren't they!

Magpies have problems with storage space. Their pockets are crammed with credit cards that turn out to be pen-and-pencil sets, match books that conceal calculators, and biros with built-in digital clocks. A magpie's worst nightmare is having a tremendously powerful computer and no software to run on it. Magpies aren't, as a rule, Archimedes owners.

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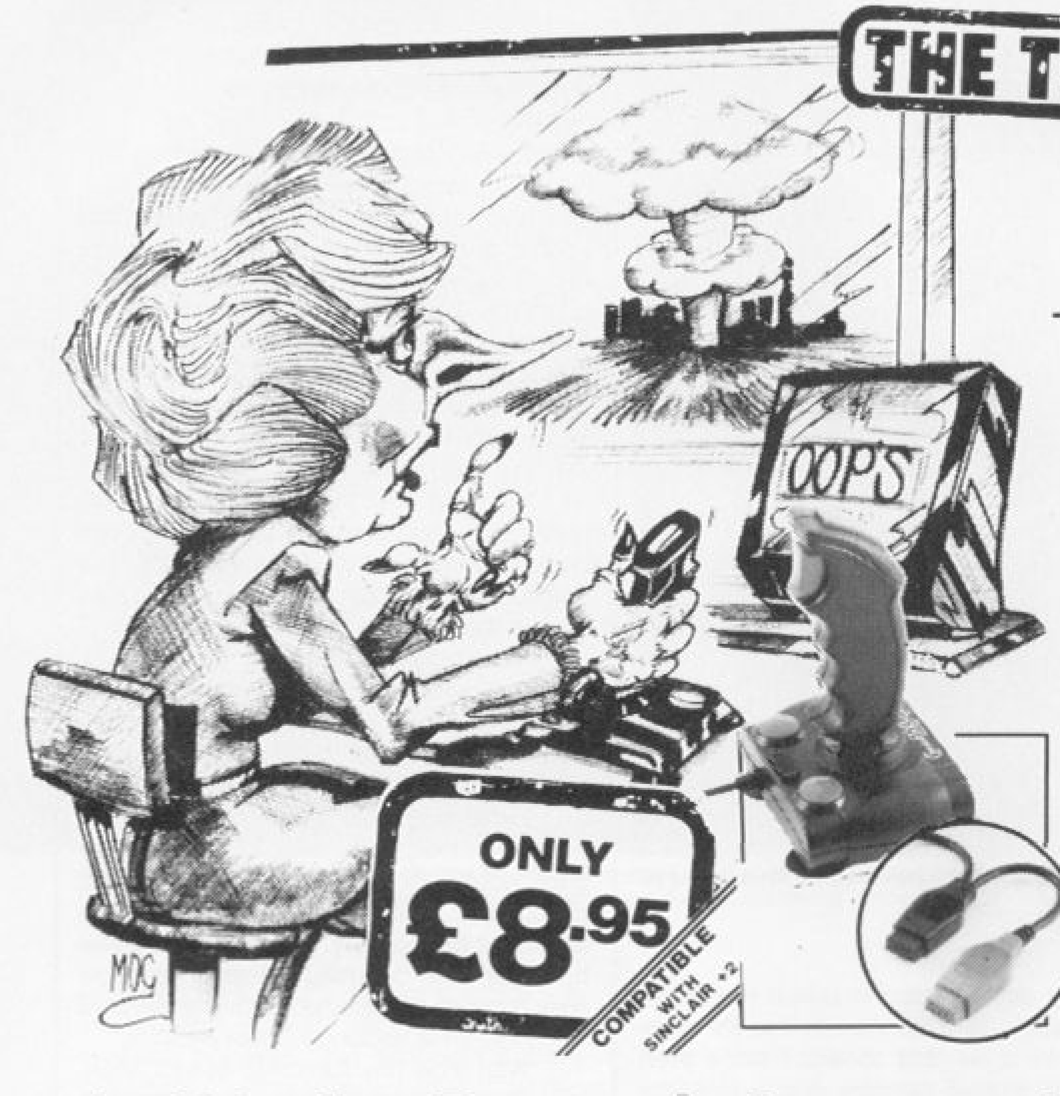

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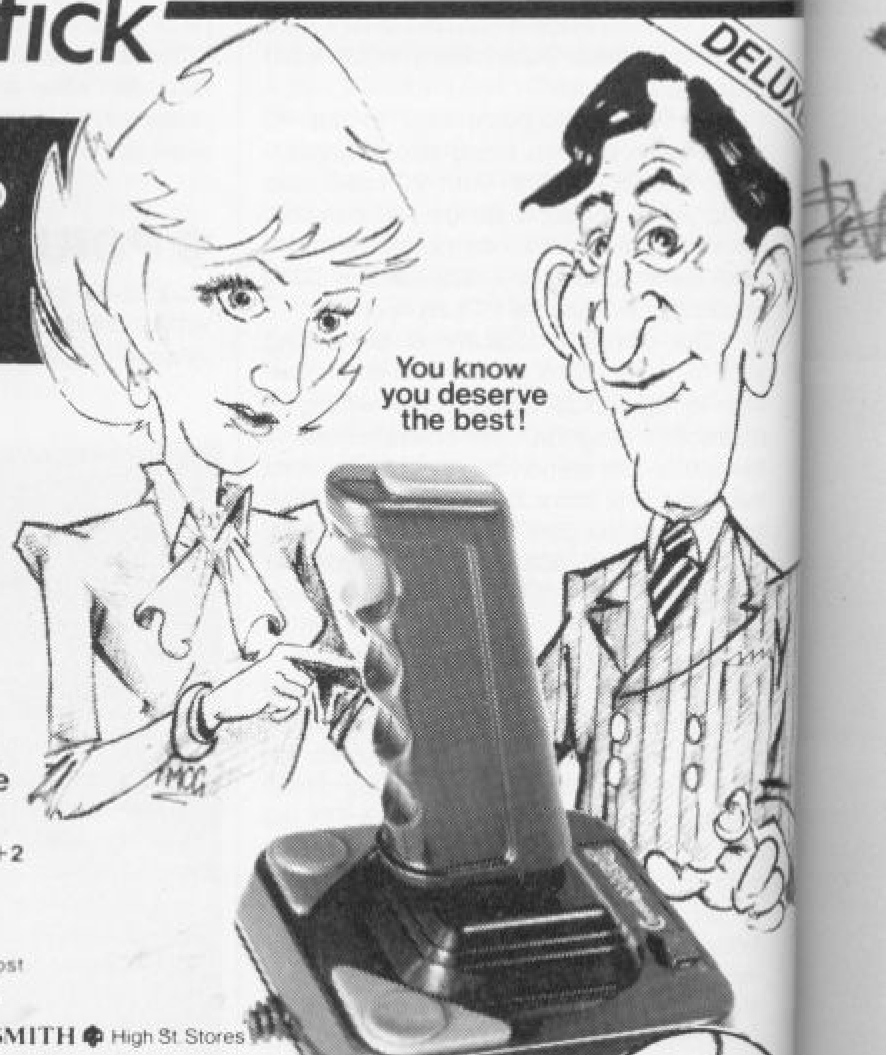

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SPORTS SIMS

Shape up for summer! Forget the Jane Fonda work-out records – what you need to blow the cobwebs away is a really good sports sim. One that will get the adrenalin pumping and make you grit your teeth with determination in the effort to be first across the line. Whether you prefer Golf, Football, Boxing or any one of a dozen other sports. We'll tell you what games are worth splashing out for and what games are best left back in the dressing room...

We've all taken part in some kind of sporting event at some stage in our lives – we might have played football for our country in our youth or taken part in the parents' egg and spoon race on the infants sports day. Whatever the event, whatever the occasion, we all know there's nothing like a sporting event to make a body perform to its best ability.

A computer game based on something so physically demanding as a major sporting event initially seems like a dumb thing to do. But if you look a little closer it's easy to see why they are so popular. For a start, the computer player is usually of a very high standard – try playing *Matchday* at international level! So the player's competitive spirit is brought to the surface immediately. The majority of games, of course, aren't limited to one human player and the amount of competion generated when two or more players compete simultaneously in whatever event has to be heard to be believed!

It's quite evident then that the competetive spirit can be almost as strong when you're playing a sports sim as it would if you were actually taking part in the event. What is missing is the physical exertion normally associated with the sport. Software houses attempted to re-create this by incorporating a feature that became the bane of many a games reviewer's life –

ware houses attempted to re-create this by incorporating a feature that became the bane of many a games reviewer's life – the waggle. The idea was simple enough – the player waggled the joystick from side to side to move the on-screen character. The faster you waggled, the faster your character moved. This feature surfaced in almost every event including swimming, running and even mountain climbing! While the majority of the following games have foregone the waggle, you might just find the odd one or two that still use it.

BARRY McGUIGAN WORLD CHAMPIONSHIP BOXING

Activision

Available on *Game, Set and Match* compilation

Amstrad	**£12.95cs**	**£17.95dk**
C64	**£12.95cs**	**£17.95dk**
Spectrum	**£12.95cs**	

Now that Bazza, the Clones Cyclone, has started his comeback, it would be churlish to leave him out of this sports roundup. *BMWCB* is undoubtedly the best boxing simulation for micros, just beating *Frank Bruno* for speed, agility and ease of use.

The virtue of the game is that it's much more than a simple fist fight in the ring. First of all you have to create your own boxer, Frankenstein-style, from the attributes available; so you can make him black or white, a hard puncher or an artful dodger. Then you have to train him, building up stamina and skills, leading the right sort of life, and so on. Only then can you start to work your way up the rankings through the 19 computer opponents towards a world title shot. The fights themselves have been designed with equal attention to detail – it's not wild brawling that will see you victorious, but intelligent boxing to your victim's weak points. Overall, it's a very classy program.

BOBSLEIGH

Digital Integration

Amstrad	**£9.95cs**	**£14.95dk**
Spectrum	**£9.95cs**	

This simulation succeeds in capturing not only the thrill of hurtling down an ice wall in a metal bullet, but also the crucial elements of strategy. You can race on six different tracks, including the one from the Calgary olympics. Each track has its own dangers that can send you careering out of control in an instant.

The Spectrum and Amstrad versions have excellent graphics and driving 'feel'. The 64 version isn't as good because of the bad driving controls and jerky graphics. You compete in world championship and olympic competition using two or four-man bobs. You can alter the bob's runners depending on the weather conditions, increase the team's fitness for faster starts and buy faster bobs if you do well enough to get more sponsorship money. A superb simulation that demands intense concentration and is always a challenge, no matter how often you play it.

BMX SIMULATOR

Codemasters

Spectrum	**£1.99cs**	
Amstrad	**£1.99cs**	
C64	**£1.99cs**	
Amiga		**£14.99dk**
Atari ST		**£14.99dk**

This simultaneous two-player bike-em-up has recently made it onto the larger machines after a very successful debut on the 8-bit machines. You have to compete against a friend (or the computer) over a maximum of seven courses. The bumps and berms etc all affect your bike realistically and help to make the game incredibly addictive and tough. Watch out too for Codemasters' *Professional BMX Simulator* which provides an even tougher challenge.

DECATHLON

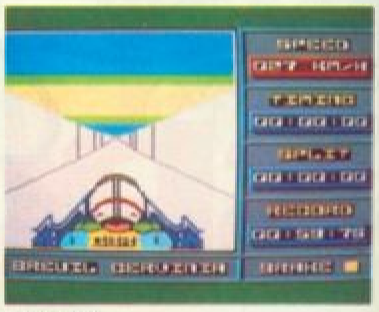
Firebird

Amstrad	**£1.99cs**
C64	**£1.99cs**
Spectrum	**£1.99cs**

This is the original waggle-king that had everyone in a sweat three-and-a-half years ago. The gameplay may not seem very sophisticated these days but for sheer joystick-pounding excitement and competitive action, it's still hard to beat.

The ten events are: 100 metres, long jump, shot putt, high jump, 400 metres, 110 metres hurdles, discus, pole vault, javelin and 1500 metres. The events all require waggling and most need some use of the fire button to time releases, jumps and so on.

This game is guaranteed to test joysticks and keyboards, but it's an immensely satisfying way of getting rid of your frustrations.



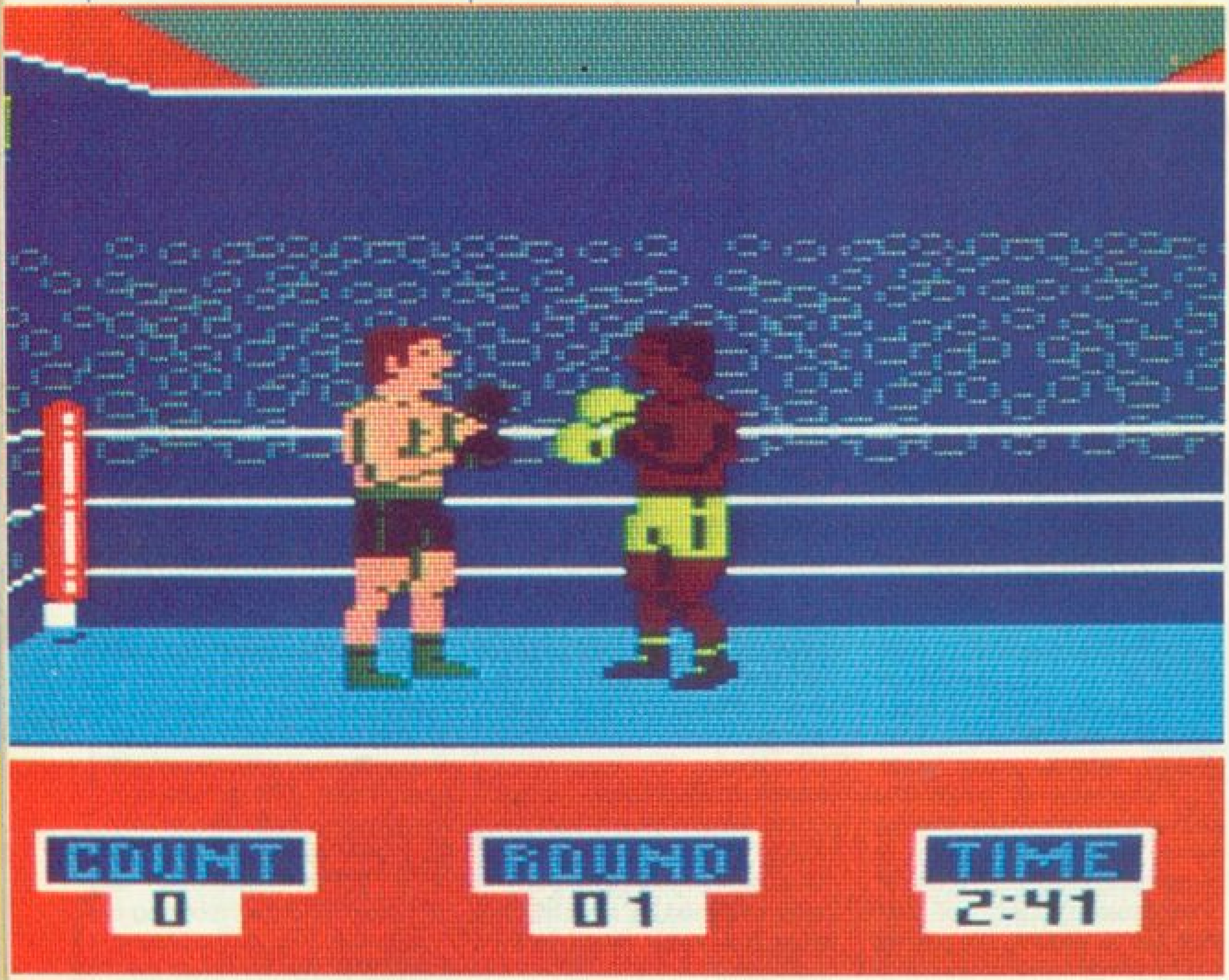
Bobsleigh

HARDBALL

US Gold

C64	**£9.95cs**	
IBM PC		**£24.99dk**
Amsoft	**£9.95cs**	**£13.95dk**

Baseball fans will not want to miss this excellent simulation of the American national game. It's got a three-screen display, beginning with team selection, moving on to the confrontation between pitcher and batter and then ending up with the wide open spaces of the diamond as figures scuttle round the bases and fielders try to run them out. Graphics on the 8-bit machines are excellent, and boy does that fastball move... Amiga owners



could do worse than look at EA's *Earl Weaver Baseball*, which is much the same thing, but with Earl – 'the winningest coach in baseball history' – adding his pearls of wisdom.

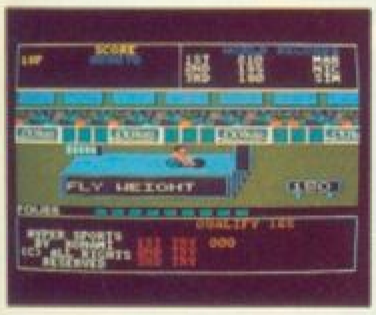
HYPERSPORTS

Imagine

Now only available on compilations, e.g. *Konami's Arcade Collection*

Amstrad	**£9.99cs**	**£17.95dk**
C64	**£9.99cs**	**£17.95dk**
Spectrum	**£9.99cs**	**£17.95dk**

One of the all-time best waggling games. It's a real test of endurance and timing as you try to waggle your way through the swimming event to the skeet (clay pigeon) shooting (take a breather from the waggling) and then the gymnastics event. Next comes archery and the triple jump before you get into a murderously strenuous bout of weightlifting. Great fun that'll really test how fit your joystick arm is.



Hypersports

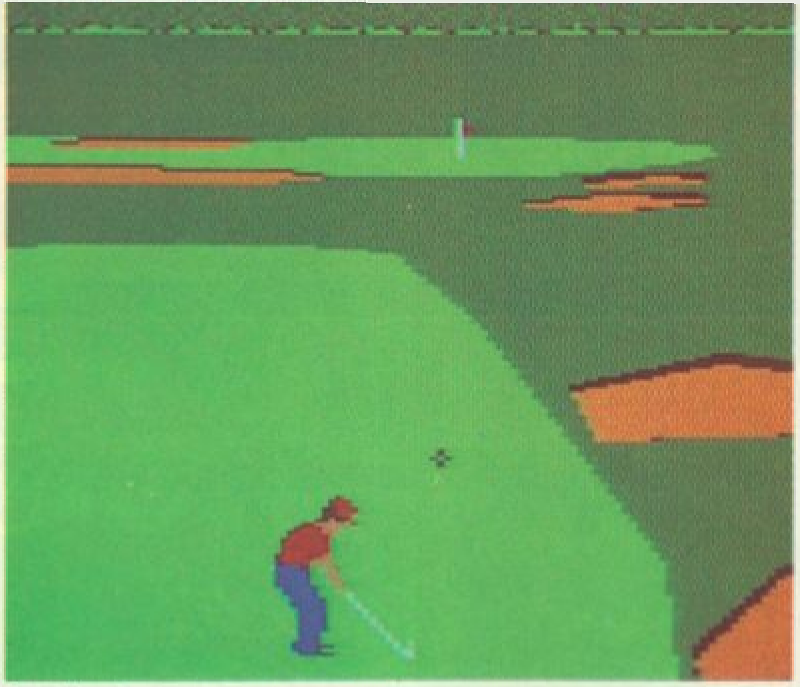
LEADERBOARD

Access/US Gold

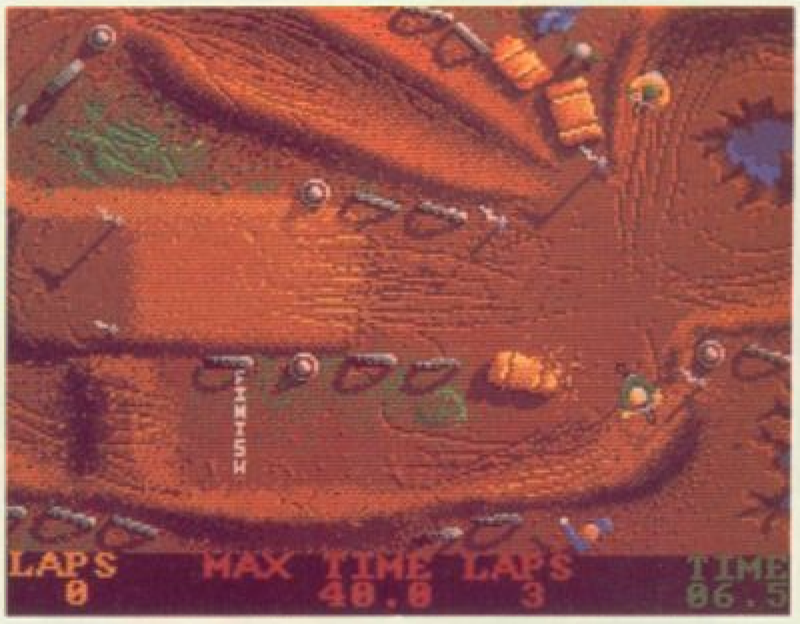
Amstrad	**£9.99cs**	**£14.99dk**
C64	**£9.99cs**	**£14.99dk**
Spectrum	**£8.99cs**	
Atari ST		**£19.99dk**

The only golf simulator worth considering on the 8-bit machines. It's been released in several forms: *Leaderboard* – the original, *Tournament Leaderboard* – four new courses to play, *World Class Leaderboard* – an enhanced version with trees and bunkers, and most recently a version containing several classic world courses.

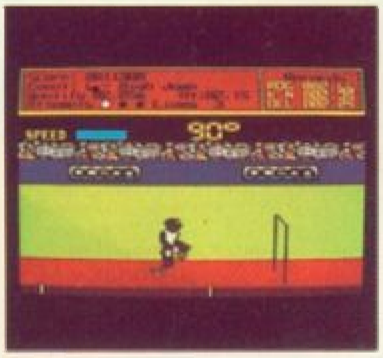
The realism of the game is in the timing and rhythm required to play shots, in which you determine both the strength of the hit and the timing of the 'snap' of the wrists. Graphically the game is also excellent, redrawing the view to the pin from wherever on the course the ball has ended up. You may not get the fresh air and the exercise of the real thing, but you'll certainly get the tension and exhilaration of the action.



Leaderboard



BMX Simulator



Decathlon

MATCHDAY II

Ocean

C64	**£8.95cs**	**£12.95dk**
Spectrum	**£7.95cs**	**£14.95dk**
Amstrad	**£8.95cs**	**£14.95dk**

The definitive football game for home micros. You take charge of a six man team and can play the computer or a friend in an attempt to win the League or the Cup. If you're feeling really mean you and a friend can gang up on the computer. Improvements on the original *Matchday* include the addition of a 'Kickometer' which gives the player the chance to vary the power of his shots, passes etc. The Amstrad version's arguably the best of the bunch, but if you're after the best football game available for any 8-bit machine, then this is the one.

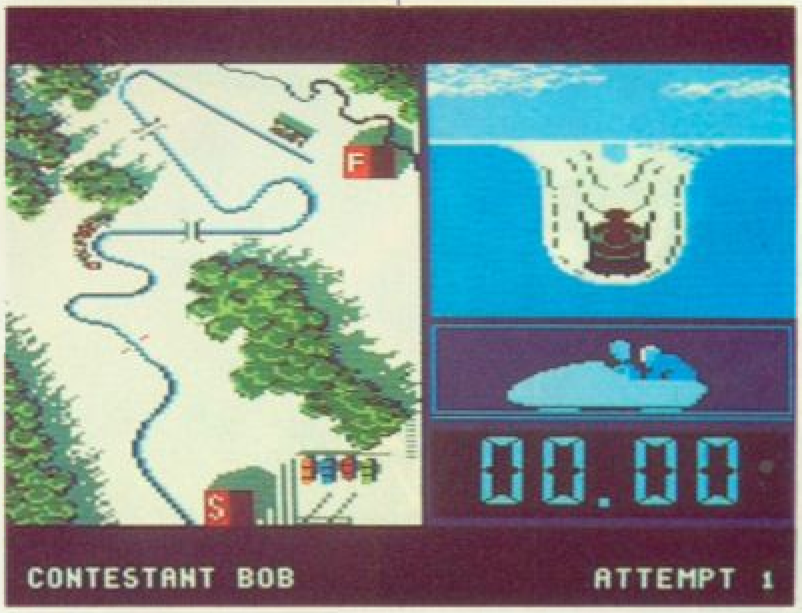
MATCHPOINT

Psion

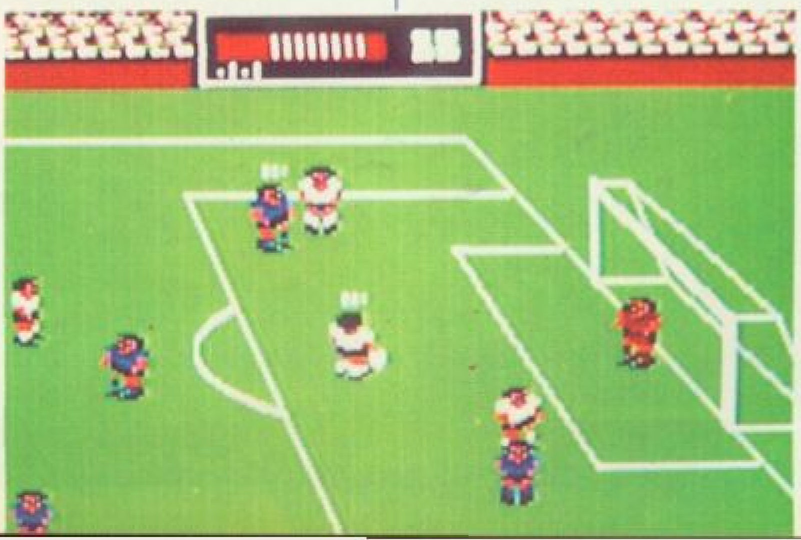
Available on *Game, Set and Match*

Amstrad	**£12.95cs**	**£17.95dk**
C64	**£12.95cs**	**£17.95dk**
Spectrum	**£12.95cs**	

Not a game to be loaded up lightly, this racket-wrangler features three of the toughest opponents this side of Wimbledon. Viewed in 3D from one end of the court, the action is trickiness itself as you struggle to position yourself properly and time your swing just right. It's not enough to reach and hit the ball: you've got to try hitting it away from the computer player, and that takes vast amounts of



Winter Games



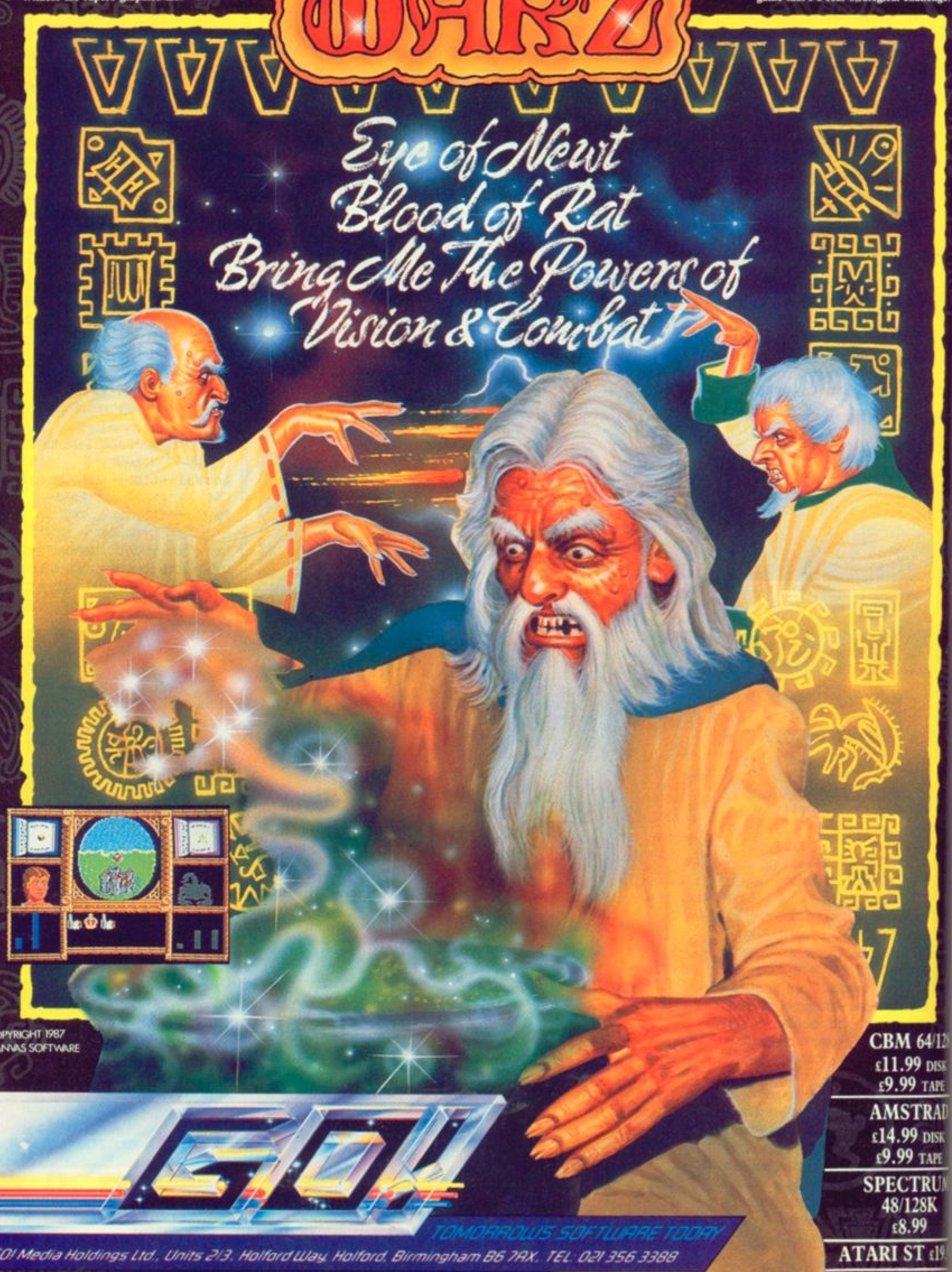
Matchday II

VENTURE INTO THE MYSTICAL MEDIEVAL DARK AGES IN

WIZARD WARZ™

A game that takes fantasy role playing one step further. You will experience all the action as you do real battle with your opponents. To prove yourself worthy of becoming chief wizard you must do combat with horrific monsters and cleverly outwit devious wizards with your spells collected through time.

Witness the superb graphics that set Wizard Warz apart from other strategy games and view through a circular screen that diminishes as your health weakens and makes your goal harder to achieve. See the effect of your spells as they hurtle across the screen in Wizard Warz combining fast moving action with depth of gameplay in a true fantasy role playing game that's a real strategical challenge.



screen shot from CBM version

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CANVAS SOFTWARE

CBM 64/12
£11.99 DISK
£9.99 TAPE

AMSTRAD
£14.99 DISK
£9.99 TAPE

SPECTRU
48/128K
£8.99

ATARI ST £19

GO!

TOMORROWS SOFTWARE TODAY

GO! Media Holdings Ltd., Units 2/3, Holford Way, Holford, Birmingham B6 7AX. TEL: 021 356 3388 practice. Very frustrating stuff, especially for those games where you're playing at the far end: try the two-player option if you'd like to win now and then!

180

Mastertronic

C64	£2.99cs
Amstrad	£2.99cs
Spectrum	£2.99cs

The definitive computer darts game. If you must play arrows on your micro then this is the one to get. *180* puts you up against a variety of foes in the championship game where you start in the quarter finals and have to defeat two computer opponents before facing the incredibly skilful Jammy Jim. You can of course elect to play a friend or go for a leisurely game of 'round the board'. Whatever you choose to do, you should raise your glass and get your belly on the oche.

PING PONG

Konami/Ocean

Available on *Game, Set and Match*

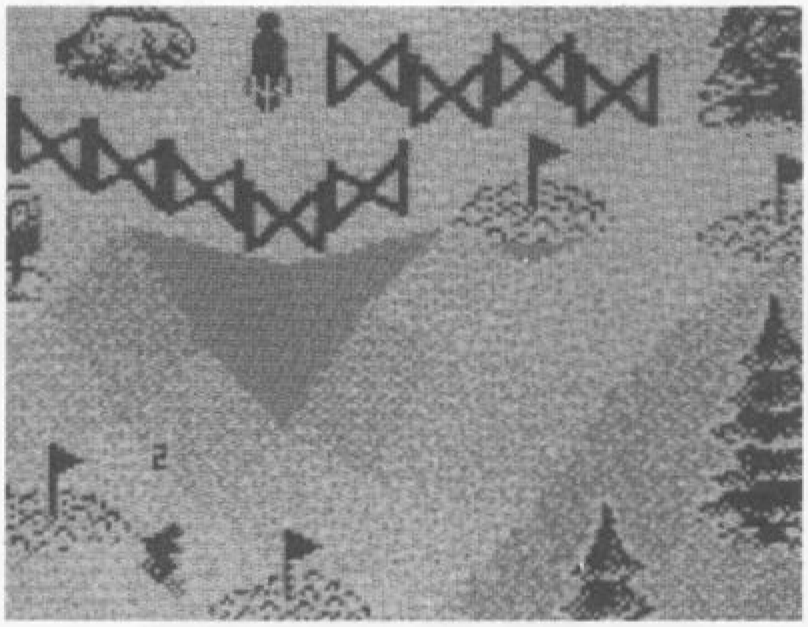
Amstrad	£12.95cs	£17.95dk
C64	£12.95cs	£17.95dk
Spectrum	£12.95cs	

Surprisingly, pinging the pong can be good, sweaty fun on a micro. Although this Konami game is no spring chicken – it appeared way back in 1985 – it still manages to be an enjoyable tussle with your computer opponent. The view is from your end of the table, whether you are serving or not. Shots possible are limited to blocks, cuts, drives or smashes, but these are quite sufficient to get a good rally going; a couple of slow looping shots followed by a stinging smash is often enough to bamboozle your opponent – on level 1, at least. On the remaining five levels you'll have much more trouble – and much more fun.

PRO SKI SIMULATOR

Codemasters

Spectrum	£1.99cs
Amstrad	£1.99cs
C64	£1.99cs



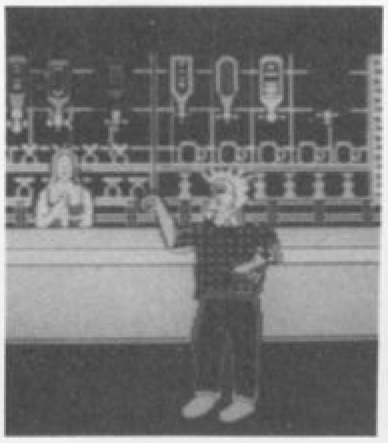
Pro Ski Simulator

Those budget stalwarts the Oliver Twins take to the slopes with this tricky, engaging piste-em-up. Your job's to get down that mountain first, using the traditional controls of left, right and thrust – a shove on the ski-sticks in this case – to get through the control gates of each slalom course and avoid obstacles en route. The slope scrolls vertically up past the camera as the race progresses, but the rate of scroll is constant so you can get left behind by it. End up 'off camera' and you'll have to struggle down navigating with the scanner: tricky stuff! Seven different slopes, some tough time limits and a great simultaneous two-player mode make this terrific value – even if it is a bit unseasonal now!

STEVE DAVIS SNOOKER

CDS

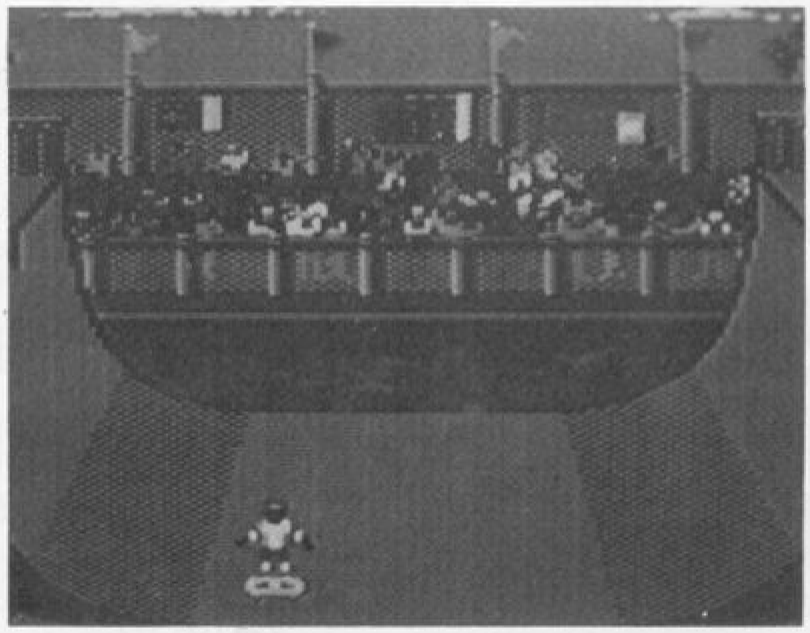
Amstrad	£1.99cs	
C64	£1.99cs	£4.99dk
Spectrum	£1.99cs	



180

Many are the snooker and pool games competing for your money, but this one – despite its age – is still the best, just like SD himself. There's not a lot to say about it really; green table, coloured balls, realistic physics, and just as hard to do well at as the real thing. What gives it the edge on its competitors is its realism; the balls behave as they should, and the spin (side, top and bottom) actually does work. If you end up making more fouls than 147 breaks, you'll have only yourself to blame.

Skate Or Die



SKATE OR DIE

Electronic Arts

C64	£9.95cs	£14.95dk

The best 'boarding sim currently available. You and up to seven other competitors can take part in a gruelling five stage head-to-head contest which includes disciplines such as the Freestyle ramp (a half-pipe with channel) high jump and a pool joust where you try to score points by knocking your opponent off his deck. Best of all is the Downhill Race through a rubbish-strewn back alley. It's not just crucial – it's radical!

SUMMER GAMES

Epyx

C64	£9.95cs	£14.95dk
IBM PC		£29.95dk

The game that put Epyx on the map even before *Impossible Mission*, this Olympic multi-eventer offered such unusual disciplines as highboard diving and gymnastics along with the more mundane 100m dash and the like. Along with the sequel *Summer Games II* this one set a standard for athletic action and animation that's still unequalled on the C64. There's a choice of country to represent – each complete with its own national anthem – and a full Olympic opening ceremony for torch fans.

WINTER GAMES

Epyx

Amstrad	£9.95cs	£14.95dk
C64	£9.95cs	£14.95dk
Spectrum	£8.99cs (128 only)	
IBM PC		£19.99dk

It may not have Eddie the Eagle, but this does have seven events requiring skill and timing, all set against picture postcard scenery. The seven events are: bobsleigh, hot dog aerials, speed skating, ski jump, figure skating, free skating and biathlon.

Events like the hot dog aerials and figure skating require the player to perform various moves to score points. Speed skating and biathlon require rhythmic waggling. In nearly all the events the main problem is staying upright – like real life. A thoroughly enjoyable game that combines good graphics, music and gameplay to make an excellent whole.

GET INTO CRIME!

In the late 1990's the streets of New York are a jungle. You are the ice cool leader of a gang of drug crazed terrorists. Your main goal is to become the richest, toughest and most notorious gang in the city.

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PLAY IT... BY MAIL

This month Tony Ross looks at PBM newcomers *Creephouse* by Project Basilisk, designers of *Troll's Bottom*, and *In Dubious Battle*, by Pandem Games, a newcomer to PBM in Northern Ireland.

IN DUBIOUS BATTLE

Pandem Games

Dubious has 100 players, each taking on the role of a God like those in Roman or Greek legends. Not just any God though, but a 'custom job' designed by each player. 1000 points are spread through 80 attributes like greed, despair, arrogance etc. The distribution of these points will affect how many worshippers the God gets and how strong he is, so it is very important to play in a manner that fits in with these attributes.

The game is set in two places; Elysium, where the Gods live and fight each other directly, and on the world which is an Earth-like place of 508 areas with 100 human tribes. Each God attempts to get power by capturing energy sources in Elysium or by having lots of worshippers on the world. This power is then used to attack other Gods, create elementals, bribe demons and help shape the destiny of the tribes on the world.

Victory goes to the first God (or Goddess) to achieve dominance over 75% of the remaining players, or who has captured over half of the power points in Elysium. As Elysium is 300 x 500 locations in size, I don't think there are going to be any winners for quite a while.

In my first turn I created some elementals and tried to grab three energy sources. Elementals are some of the beings that exist in Elysium along with Demons, and Ur-Gods which seem to be the equivalent of mobile minefields. On the world, I did a bit of work on one tribe to try and push the birthrate up.

As with any new game, it is a matter of 'suck it and see', trying to work out the best tactics and strategies. With 31 orders that affect the world and 12 which work in Elysium, there is quite a choice of actions.

The rule book is glossy, well written and produced, but suffers slightly from being reproduced from a non-letter quality printer. Along with some information sheets, the starter pack costs £6.00 and this gives, I think, two free turns. Later turns cost £1.50 each.

COMPLEXITY	7	ENJOYMENT	7
PRESENTATION	7	SKILL	9

ACE RATING 8

CREEPHOUSE

Project Basilisk

This is quite a different game. Basilisk seem to specialise in quirky subjects and have really surpassed themselves this time. The theme is 'Comedy Horror' and I would guess it derives some inspiration from the musical 'Little Shop of Horrors' which also has pretty girls, gobble plants and singing.

According to the designer, Robert Fortune, 'it is more like home computer games than PBM'. Each player starts off as a creepy monster trapped in a three-storey haunted house. Once five of the original forty inhabitants have escaped the game finishes.

The house is full of other player monsters who begin as Creeps, but can transform into Slimes or even Wulfs. In these guises, the monsters move about the house, eating grabbing, and frightening other things. In my game there is a pretty girl in the room with me and I'm presently considering whether to eat her, or frighten her as a Slime. Its a tough decision.

Things in the house give reports on other players and sometimes sing songs. On my first printout, the floorboards sang the 'Creep Song' whose lyrics go something like 'Creep, creep, creep, creeep (YEH), sha-la'. Very odd indeed.

Four preprinted maps give the layout on each floor plus a copy of the graveyard. These can be photocopied and used to mark the location of furniture and objects like suits of armour. It is possible to haunt objects, or move them about or even stack them on top of each other and this, I would guess, is part of the answer to escaping the house.

The rulebook and turn cards are similar to 'Its A Crime', though the orders do not use numbers at all and are in simple English with commands like MUNCH ALL BANANA FRUIT, THROW ALL CHAIRS, FRIGHT LIKE SLIME and so on. Up to 35 words can be entered each turn.

Game starts are free and this gets the usual two turns free as well. Turns are only 90p so at this price the game should appeal to the low budget PBMer. Unusually, it is possible to have up to two turns processed each week, assuming the Post Office don't do their worst. My only worries are that this will let richer players enter more turns and give them a better chance. This happens a lot in US postal games but hasn't been seen much on this side of the Atlantic.

A most unusual game, which should appeal to younger players and those into adventure games, though serious PBMers would probably not go for it. It is shortly to be improved by the addition of new monsters, objects and graphics on turnsheets.

COMPLEXITY	4	ENJOYMENT	7
PRESENTATION	9	SKILL	5

ACE RATING 7

SPECIAL DELIVERY

Not so much this turn. MA Games who do *Crisis* (reviewed last month) are working on a jumbo version which will have more players and different types of units. No date has been given for its launch yet.

*****

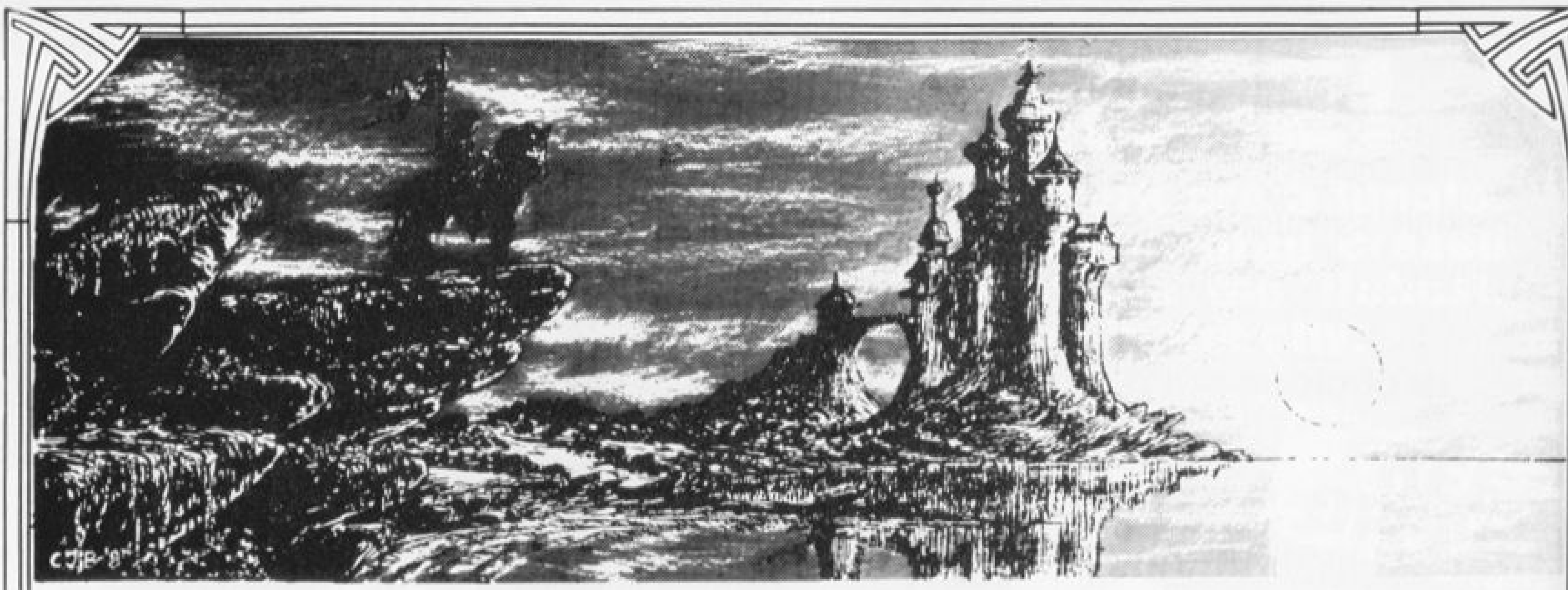
KJC games are bringing out a new magazine *First Class* for players of its games. This will cost £1.50 and carry articles about existing and new games.

*****

Until next time, may all your creeps turn to slime. Yah!

COMPANY ADDRESSES

In Dubious Battle – **Pandem Games**, PO Box 127, Belfast,
N. Ireland, BT9 5ED
Creephouse – **Project Basilisk**, PO Box 24, Sheerness, Kent,
ME12 3QU.
MA Games – 15 Fairview Crescent, Harrow, Middx, HA2 9UB
KJC Games – PO Box 11, Blackpool, FY5 2UL.



AVALON

THE KNIGHTS OF THE AVALON

The Chronicles of 'THE KNIGHTS OF THE AVALON' is a fantasy-based Play By Mail game from JADE Games, where players seek to establish, through trade, colonisation, politics, religion and conquest, empires.

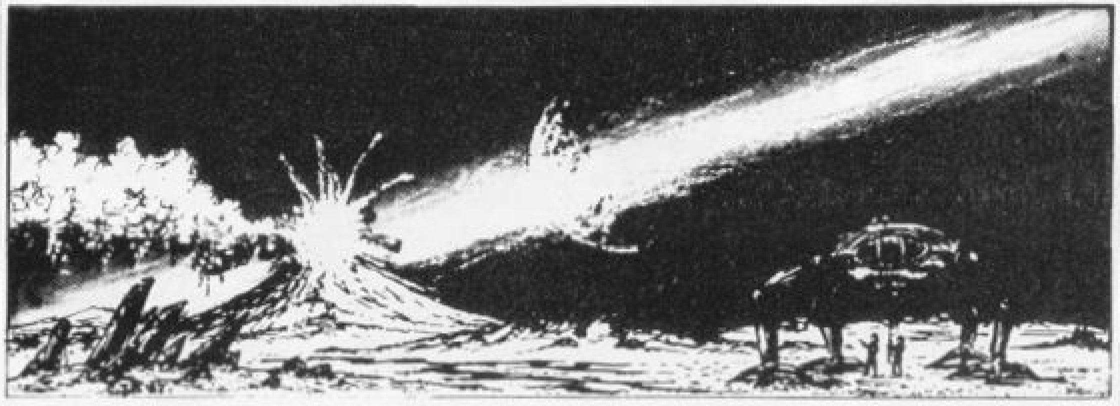
For a free start up write to JADE Games with future turn costs from as little as 80p or ring 0705 828271 for an immediate start up.

FREE

NEW ORDER

For centuries your civilization has suspected the existence of intelligent life on other planets. Until now you could do no more than speculate about the mysterious radio signals that your scientists have occasionally intercepted. However with the recent development of the hyperjump engine, conditions have become right to reach out and attempt to create a NEW ORDER to link the stars. Will the dominant species in that NEW ORDER be yours, or that of some alien lifeform? In NEW ORDER you get the chance to find out!

NEW ORDER is a detailed game of space exploration, the rule book costs 3.00 (please don't request to play before reading the rules).



Could you survive on Flindar?

The rogue moon Phosphor has almost destroyed life on the planet's surface – causing world wide earthquakes, flooding and volcanic activity.

SHATTERED WORLD is an excitng PBM GAME OF SURVIVAL.
Startup costs 5.00, with further turns 1.50, includes postage both ways.

SHATTERED WORLD

JADE GAMES

JADE GAMES
FREEPOST
SOUTHSEA
HANTS
PO4 0BR

This month's selection of maps, tips and pokes should help you to make this your highest scoring month ever. Keep those tips rolling in – you never know, yours could be the 'tip of the month', in which case you'll be handsomely rewarded for your effort!

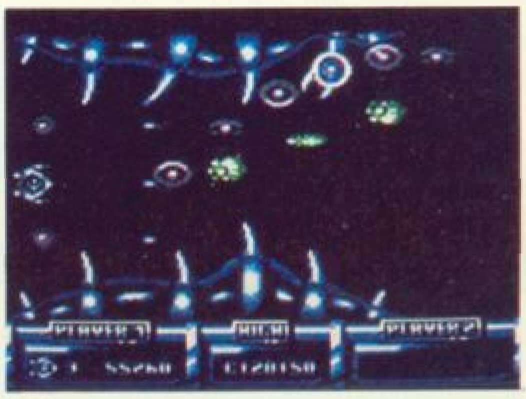
TRICKS 'N' TACTICS

BUGGY BOY

For infinite time on the Amstrad version of this 900+ game simply type in and Run this listing before loading.

```
10 MODE 1:MEMORY 12345
20 TOT=0
30 FOR N=&9C00 TO &9C16
40 READ A$: A=VAL ("&"+A$)
50 POKE N,A: TOT=TOT+A
60 NEXT N
70 IF TOT<>2281 THEN PRINT "ERROR IN
DATA!!":END
80 LOAD"BUGGY"
90 IF PEEK (&9B00)=&11 THEN CALL &9C00
100 POKE &9C04,&75
110 CALL &9C00
120 DATA 21,09,9C,22,7E,9B,C3,00
130 DATA 9B,3E,C9,32,7F,5E,C3,88
140 DATA 4C,4A,55,53,54,49,4E
```

BEN LAUGHTON, Itchingfield.



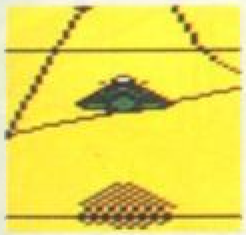
IO

If you need help with this game, then this C64 poke should deliver. Load the game first and then reset it before entering:

```
POKE 25002,(0-255) (Number of lives)
POKE 24969,(0-3) (Number of level)
POKE 24961,(0-3) (Number of the screen on
which you start).

SYS 6*4096 (restarts the game with the changes)
```

ANDRE VAN DER ELST, Rotterdam.



ATF

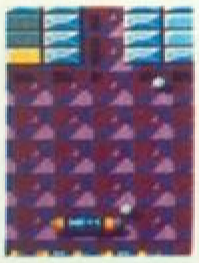
A few timely words of advice for anyone needing help surviving in Digital Integration's high flyer.

As your intelligence reports don't give you the whole picture regarding targets, it's advisable to carry out missions close to base and then search for your own targets. When you are near a target that is not in the database, a detection message will appear and will then be entered into your target list.

Mavericks are only effective if your heading is within 1 or 2 degrees of your target's bearing. If you are flying over a target, it can sometimes be destroyed by cannon. Bases, factories and comms usually need more than one hit to be destroyed. Beware of using ASRAAMs as they are inaccurate and cause the plane to bank as you guide them. It is a lot simpler and almost as effective to use the cannon.

If an interceptor approaches from behind, bank in the same direction as his bullets, which will now miss you. Reduce thrust and the plane will overshoot, then simply fire at it as it flies off. The automatic landing signal will come on approximately 80km from the runway, and it is advisable to lower the undercarriage then because the message does not always remind you to.

CHRIS MANTON and JEREMY WEINGARD, High Wycombe.



ARKANOID II

This C64 poke will not only give you infinite lives, but it allows you to advance screens at the press of the restore key.

```
1 PRINT CHR$ (147)
2 FOR I=2816 TO 2920: READ X: A=A+X: POKE
I,X
4 NEXT
5 IF A<> 11967 THEN PRINT "ERROR!"
6 DATA 162,87,189,17,11,157,128,1,202
7 DATA 16,247,162,255,154,76,128,1
8 DATA 32,86,245,169,144,141,240,3
9 DATA 169,1,141,245,3,76,167,2
10 DATA 169,32,141,84,3,169,162,141
11 DATA 85,3,169,1,141,86,3,76
12 DATA 0,8,169,176,141,115,1,169
13 DATA 1,141,116,1,173,18,208,96
14 DATA 169,173,141,255,9,162,7,189
15 DATA 205,1,157,0,61,202,16,247
16 DATA 162,0,160,61,142,250,255,140
17 DATA 251,255,76,212,6,169,255,141
18 DATA 67,3,76,88,55,76,212,6
```

Type SYS 2816 to start the game.

The D&D Crew, Clayton.

CYBERNOID
THE FIGHTING MACHINE

CYBERNOID

This cheat for the Spectrum will provide you with infinite lives and time in which to complete Mr Cecco's latest offering.

1. Choose the Define Keys option
2. Type in YXES
3. Redefine the keys as you would normally
4. Start the game.

GED MONTI, Wirral.

GRAPPLING

To get anywhere in this game, you've got to get to grips (groan!) with the grapple sequence. The priority is to de-activate the detonator. Once the device is safe try and arrange the question marks and boxes in the correct order. If you are low on power, it is a good idea to grapple a device and merely disarm the detonator. This will replenish all your energy and you can keep your original parts. Grappling is the only way to recharge yourself in *Magnetron*. If you have a 'Freeze Cartridge' for your machine, now is a good time to use it!

There are various moves you can use to align the icons. For example, if you move a piece along the top or bottom row in an 'L' pattern, you will rapidly be able to complete one row and possibly the screen. Practice and agility are called for here!

MAGNETS

If you are carrying heavy rods near magnets – BE CAREFUL! It is all too easy to get pulled off course and crash if the magnet is near a ramp. Make sure you go slowly and check which way the magnet points. Long magnets can save you power if you can allow yourself to be carried along by them.

DRIVE UNITS

If you're looking for a good drive, the best are the INTER and ULTRA-PHASE models. The drive units are useful for extra speed and agility, especially when carrying extra rods. If you have a sluggish drive, you will not be able to ascend steep ramps or resist magnets. Be careful of going too fast though, especially on ledges, and a drive unit shouldn't be your primary consideration when choosing a droid to dismantle.

POWER UNITS.

Unlike *Quazatron*, the power units in *Magnetron* are matched to your items. The Cybatic units are more prone to running down, however, so if you feel trigger-happy, go for a droid with a Neuron unit. The cybatic units are also more prone to running down when you collide with your adversaries.

WEAPONS

Proton Disks – frisbee-like weapons that are only useful against low level droids. Not recommended, but a useful starting weapon as it doesn't put excessive demands on your energy.

Cruiser – unique to the P3 security droid. If you can find one, the Cruiser is an excellent weapon. It's only effective at short ranges and tends to be inaccurate when compared to other weapons, but it is powerful enough to remove most droids and it also has guided missiles that can follow targets.

Plasmaron – a high powered weapon which security droids use to great effect against you – so be careful when you approach a P1 or a P2 unit. Like the cruiser it can destroy any droid within a few shots. The Plasmaron is an excellent weapon during the early stages.

Mortar – a superb long-range weapon this, it can also be used for short-range combat and is only bettered by the Anti-drive when it comes to destroying droids just out of normal range.

Bouncing bomb – similar to the mortar and will work at all ranges. It's difficult to aim and fire accurately, but it is devastating – the droids seem to be expert at using the bouncing bomb.

MAGNETRON

Some comprehensive tips here for all Commodore and Spectrum owners

Anti-drive – similar to *Quazatron's* disruptor, it will hit all droids on the screen but it will take a few shots to destroy them. The Anti-drive is very useful for 'mopping up' the low level droids – especially void droids. Beware of overuse though as it drains your energy but fast! Also, don't use on P2 and E2 droids as their Anti-freeze devices make them invulnerable.

Seeker – Homes in on the nearest target that is at approximately the same altitude as you. Only the F2 droid is invulnerable to the Seeker, which is hard to find but is worth searching for as it is very effective.

As the droids are all weapons experts, the best way to start to grapple with a droid is to come at it from below, on a ramp, with your grapple already turned on.

DEVICES

Durocell – Boosts your power unit.

Overdrive – Increases your speed (useful if you're heavy).

Anti-freeze – not very useful unless you're on critical power level.

Ultra-ram – unique to the P1 droid, this device is useful in crowded situations when you can just touch and destroy.

Super-shield – renders you immune to most weapons.

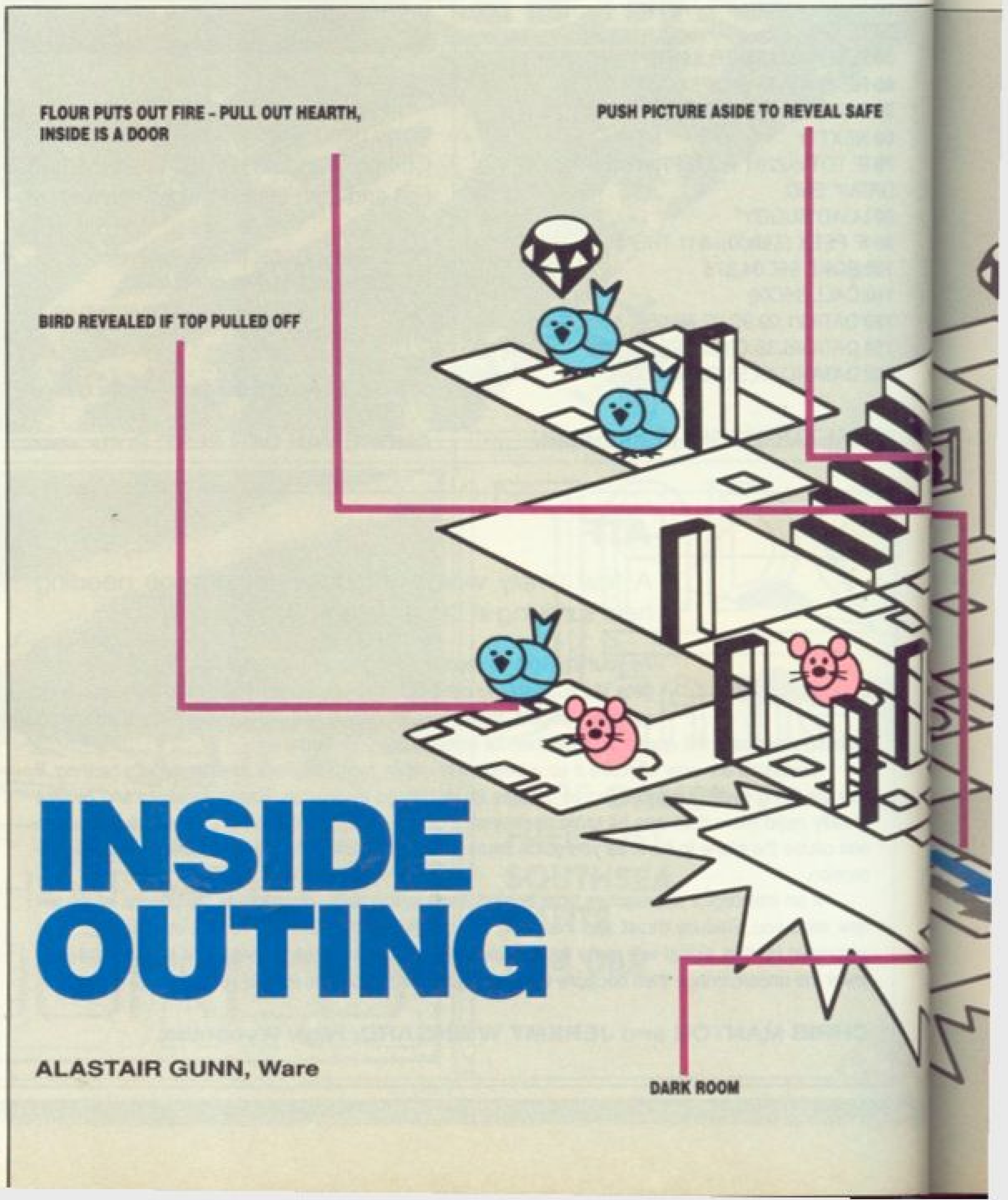
Scrambler – similar to the Anti-freeze in operation, this device jams Seekers.

Anti-grav – stops you exploding when you fall off ledges.

GENERAL HINTS

As you approach a cluster of droids, use the table to see if they have anything worth stealing, and then check how well-armed they are. Always try to operate a clone as this gives you an extra life and is less hazardous. The best droid is the E3 as it has an Anti-grav, Seekers and powerful drive and power units.

JARON COLLIS, Bangor Co.Down.

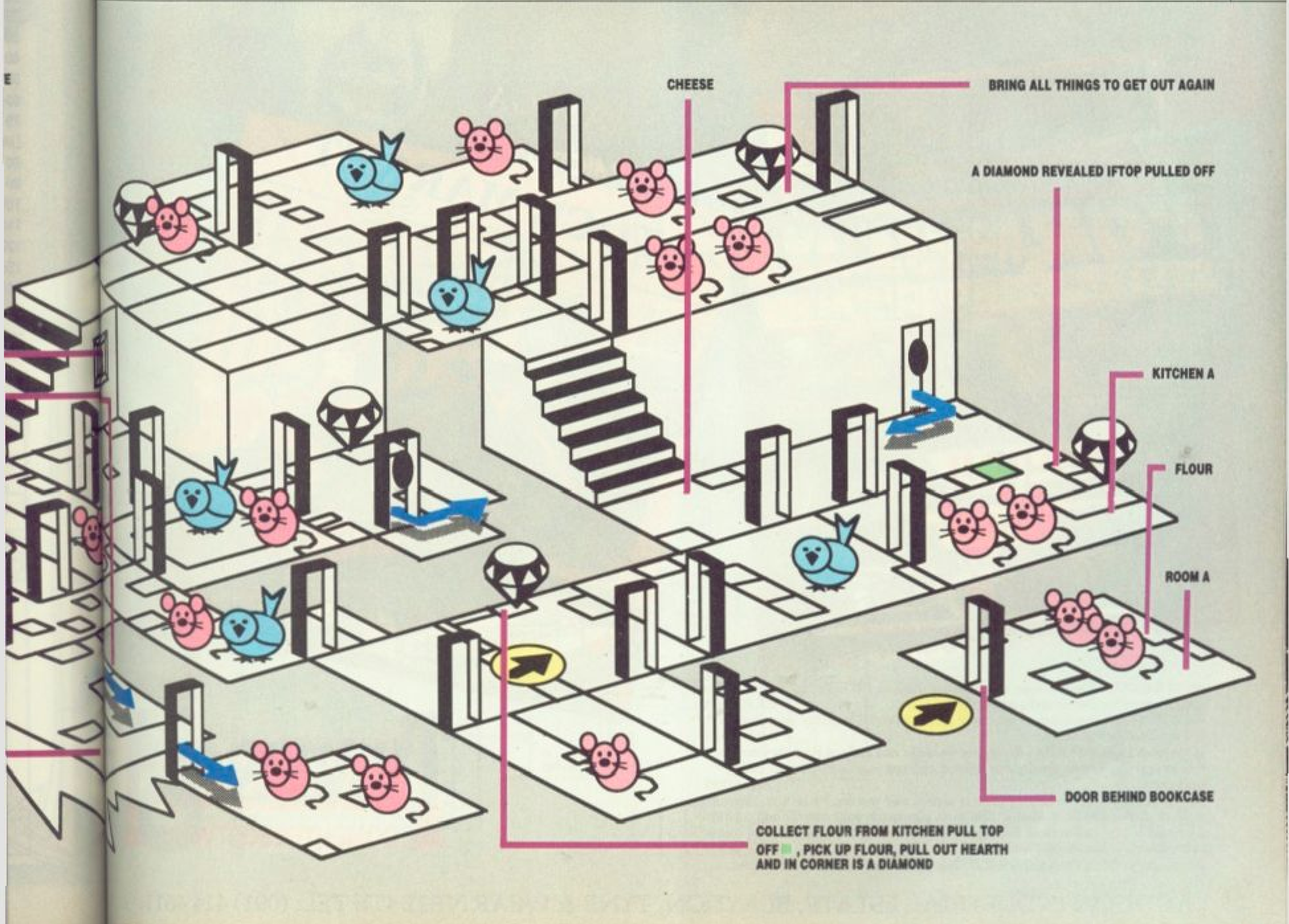

FLOUR PUTS OUT FIRE - PULL OUT HEARTH, INSIDE IS A DOOR
PUSH PICTURE ASIDE TO REVEAL SAFE
BIRD REVEALED IF TOP PULLED OFF
DARK ROOM

INSIDE OUTING

ALASTAIR GUNN, Ware

THE MAGNETRON DROIDS

DROID	TYPE	SEC. CLASS	DRIVE UNIT	POWER UNIT	WEAPON	DEVICE
E1	**Elite Class**	**Alpha**	**ULTRA-PHASE**	**NEURON 4**	**ANTI-DRIVE**	**OVERDRIVE**
E2	Elite Class	Beta	ULTRA-PHASE	NEURON 3	SEEKER	ANTI-FREEZE
E3	**Elite Class**	**Beta**	**ULTRA-PHASE**	**NEURON 3**	**SEEKER**	**ANTI-GRAV**
F2	Fury Droids	Gamma	INTER-PHASE	NEURON 2	BOUNCING BOMB	SCRAMBLER
F3	**Fury Droids**	**Gamma**	**INTER-PHASE**	**NEURON 2**	**BOUNCING BOMB**	**SUPER-SHIELD**
G1	Guards	Gamma	CYCLIC	NEURON 1	ANTI-DRIVE	SUPER-SHIELD
G2	**Guards**	**Gamma**	**CYCLIC**	**NEURON 1**	**MORTAR**	**DUROCELL**
G3	Guards	Gamma	CYCLIC	NEURON 1	MORTAR	GRAPPLE
P1	**Pursuit Units**	**Delta**	**SYNCHRON**	**CYBATIC 4**	**PLASMARON**	**ULTRA-RAM**
P2	Pursuit Units	Delta	SYNCHRON	CYBATIC 4	PLASMARON	ANTI-FREEZE
P3	**Pursuit Units**	**Delta**	**ASTRON**	**CYBATIC 4**	**CRUISER**	**OVERDRIVE**
P4	Pursuit Units	Delta	ASTRON	CYBATIC 4	PROTON DISK II	OVERDRIVE
V2	**Void Droids**	**Epsilon**	**INTER-PHASE**	**CYBATIC 3**	**PROTON DISK**	**DUROCELL**
V3	Void Droids	Epsilon	ELECTRO-DRIVE	CYBATIC 3	PROTON DISK	DUROCELL
V4	**Void Droids**	**Epsilon**	**MAGNA-DRIVE**	**CYBATIC 2**	**PROTON DISK II**	**DUROCELL**
V5	Void Droids	Epsilon	HOVER-DRIVE	CYBATIC 1	PROTON DISK	DUROCELL



CHEESE

BRING ALL THINGS TO GET OUT AGAIN

A DIAMOND REVEALED IFTOP PULLED OFF

KITCHEN A

FLOUR

ROOM A

DOOR BEHIND BOOKCASE

COLLECT FLOUR FROM KITCHEN PULL TOP OFF 🟩 , PICK UP FLOUR, PULL OUT HEARTH AND IN CORNER IS A DIAMOND

AMIGA SOFTWARE

AMIGA
SECONDS OUT
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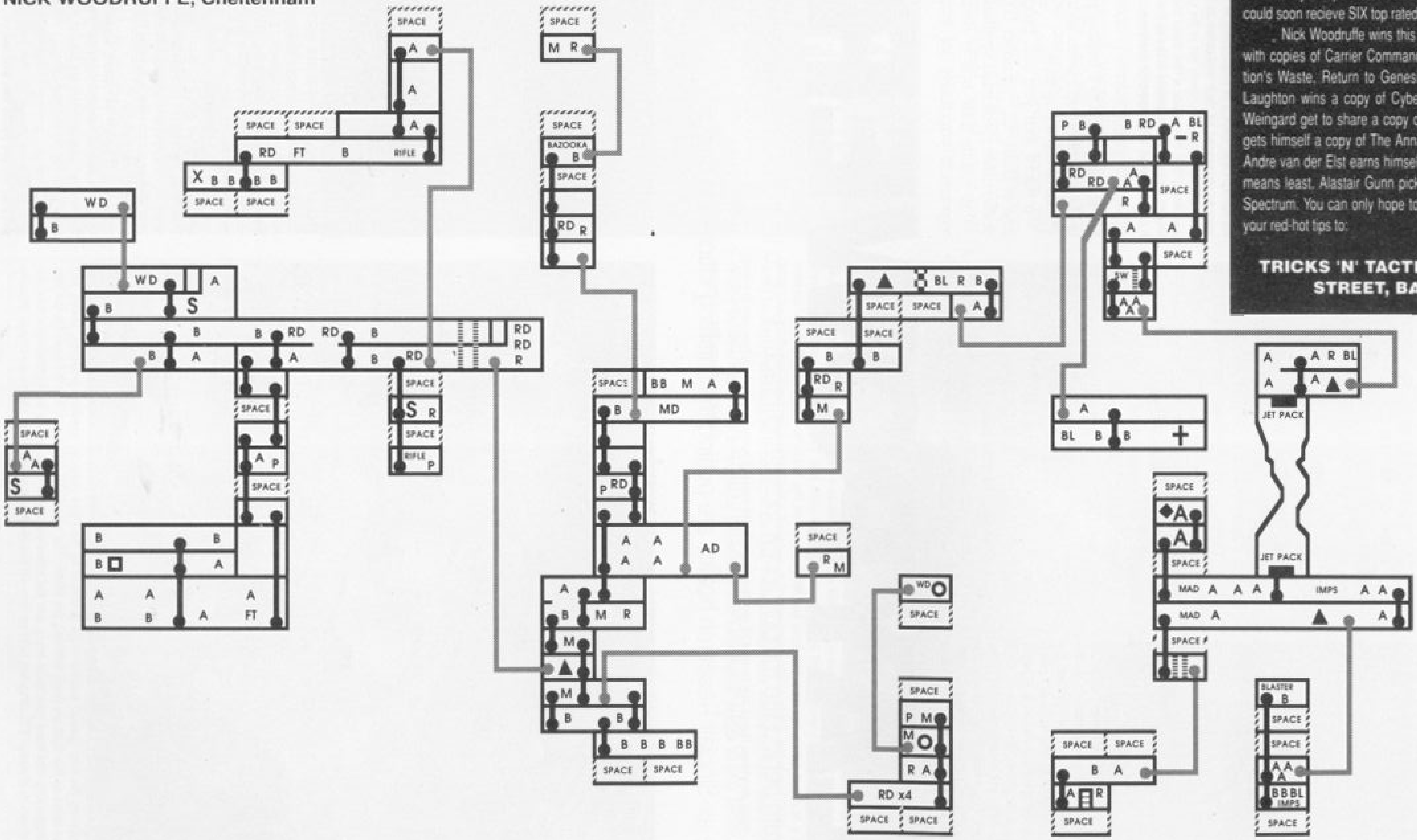

▬ **SPACE** - AS IN AIRLESS! **A** AIRBORNE ALIENS. **B** TWO-LEGGED ALIENS. **WD** WALL DEFENCE - USUALLY HIDDEN. BLASTER OR BAZOOKA NEEDED TO DESTROY. **RD** (ROOF DEFENCE THAT DROPS ALIENS - DANGEROUS. BLASTER OR BAZOOKA NEEDED TO DESTROY. **MD** MOBILE DEFENCE. BLASTER OR BAZOOKA NEEDED TO DESTROY. **MAD** MOBILE AIRBORNE DEFENCE - DEADLY - USE BLASTER!. **A** (bg) BIG ALIEN AS PICTURED ON POSTER. NEEDS BLASTER OR BAZOOKA TO DESTROY. **IMPS** DON'T STAY AROUND TO MEET THESE. **FT** MOVING FLOOR TILE - JUMP OVER THIS, NOT ON IT!. ┆ FORCE FIELD - DRIVE THROUGH IT. **SW** FORCE FIELD - SHOOT SWITCH WITH RIFLE TO ENTER. ● LIFT ACCESS POINT. ▮ LIFT SHAFT ● TRANSPORTERS (DOORS) ▮ CONNECTIONS BETWEEN TRANSPORTERS. ▲ REGENERATE YOUR SHIELD HERE. ⌶ - NEEDS BAZOOKA TO DESTROY. **RIFLE** CAN BE FOUND WHERE SHOWN. **BLASTER** CAN BE FOUND WHERE SHOWN. **BAZOOKA** CAN BE FOUND WHERE SHOWN. JET PACK USE CURSOR KEYS TO MOVE. DON'T TOUCH WALLS - INSTANT DEATH. **BB** BAZOOKA AMMUNITION. **BL** BLASTER AMMUNITION. **P** PISTOL AMMUNITION. **R** RIFLE AMMUNITION. **S** (bg) MOST COMMON STARTING POINTS OF GAME. ▤ DATA PACK. X ENGINE COMPONENT. ○ SHIELD COMPONENT. ◆ SHUTTLE COMPONENT ✚ WEAPONS COMPONENT. □ PUT SHUTTLE COMPONENT HERE TO WIN GAME.

WINNERS' BOX SOFTWARE GIVEAWAY!!

We're extremely generous in the ACE offices and we certainly appreciate the effort put into producing top quality tips for our TN'T section. If your tips are selected for the 'tip of the month' prize YOU could soon recieve SIX top rated games for your machine!

Nick Woodruffe wins this month's top prize and walks away with copies of Carrier Command, Spidertronic, Deflektor, Foundation's Waste, Return to Genesis and Out Run for his ST. Ben Laughton wins a copy of Cybernoid. Chris Manton and Jeremy Weingard get to share a copy of Action Force II and Jaron Collis gets himself a copy of The Annals of Rome and our Dutch tipster Andre van der Elst earns himself Target:Renegade. Last but by no means least, Alastair Gunn picks up a copy of Magnetron for his Spectrum. You can only hope to win some software by sending in your red-hot tips to:

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PLAYPOWER!

At last - the truth behind the rumour: a new music-and-graphics micro that could put real power into the hands of the user who values self-expression more than spreadsheets...Steve Cooke visited Flare Technology, where ex-Sinclair Research boffins are putting the finishing touches to a mighty new micro.

The Flare has been designed for simple operation - to the extent that entry-level machines will be controllable entirely by joystick using an icon-driven front-end operating system. The prototype in this picture uses a 3.5-inch disk and is controlled by a standard IBM-keyboard. Until final manufacturing decisions are made, we can't say exactly what configuration the machine will have - but options include supplying with or without keyboard, musical keyboard, hi-speed cassette interface, and hard disk.

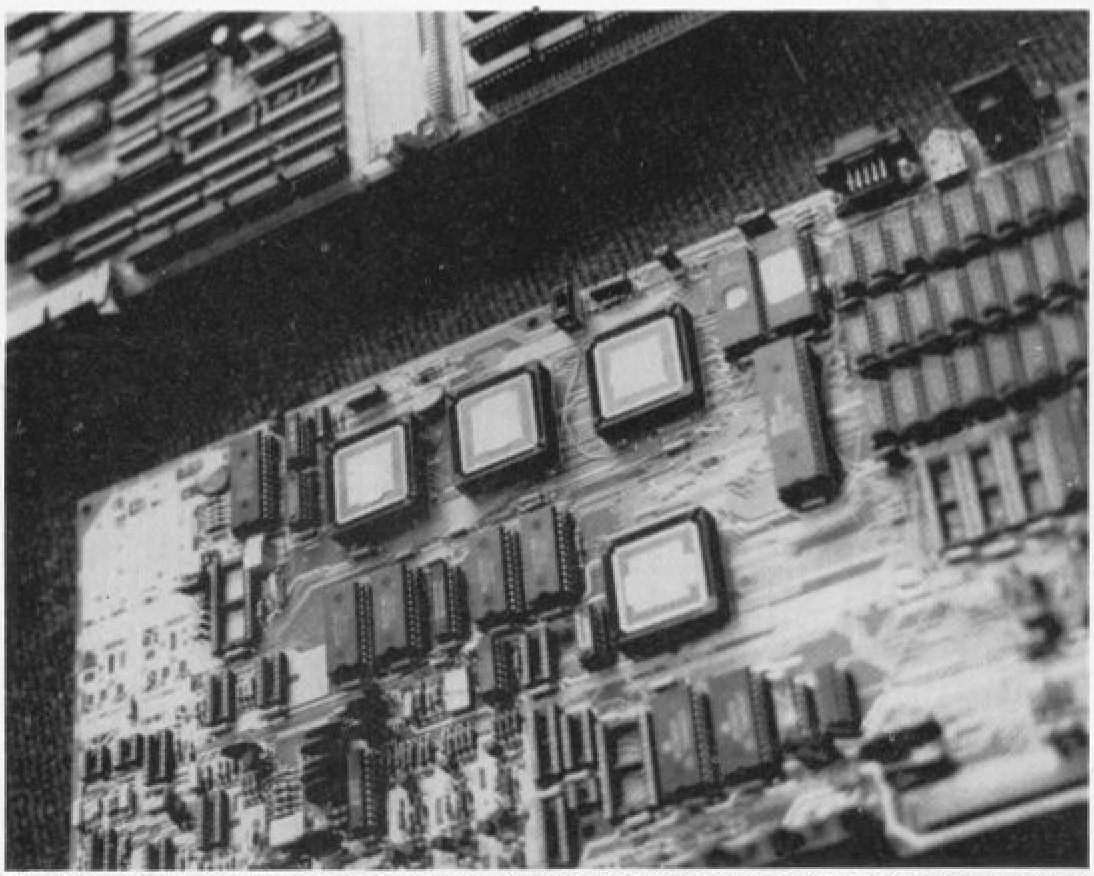
There's been a lot of it about. Whispering, that is. Rumours have been rife about new machines from Amstrad, centering on the possiblity of a Spectrum+4 that has been variously been reported as a musical micro, a 512K speeded-up Spectrum+3, and more. Here at ACE, we've managed to uncover at least some of the fire behind the smoke: there is a new micro, it exists in final prototype form, it is ready for production...but exactly who will be producing it is still undecided. Now read on...

The Flare One (as the machine is called) is a 1Mb machine with (in the full-blown configuration) 128K of ROM, 128K of video RAM, and 768K of system RAM. It was designed exclusively as a 'creative computer' and if it reaches the marketplace it will certainly give both the Amiga and the ST a run for their money.

Martin Brennan (left) and John Mathieson - two members of the Flare design team. The Department of Trade and Industry were so impressed by their dedication to the project, which has included funding it entirely out of the proceeds from their own work, that they made a film about them. Let's keep our fingers crossed that someone takes up the machine and gets it on the market with support it deserves.

Although Z80 based like the Spectrum series, the Flare draws its power from four custom chips designed by the company with the specific intention of providing powerful (VERY powerful) graphics and sound capability. Just to give you some idea, how would you like:

- a micro that can give you a fast-moving game with 256 colours on-screen, update the screen at up to 3 million pixels per second, and play full stereo sound with eight voices at the same time;
- a micro that you can program to emulate a Casio CZ, Yamaha DX or one of a dozen other dedicated synthesisers;
- a micro that has a dedicated video expansion capability for frame-grabbing,


The prototype board, featuring the four special custom chips designed by the Flare team for handling graphics, sound, and memory. The row of three chips on the right are (from bottom), the-blitter; the 'glue chip' which provides the logic for the blitter and also the DSP's multipying functions (see main text); and the video controller chip. In the background you can see some of the bulky and extremely complex TTL circuitry, built up from off-the-shelf chips, that Flare 'shrunk-by-design' into the four custom chips.

FLARE TECHNOLOGY - WHO ARE THEY?
They're no fools, these boys. Martin Brennan (31), John Mathieson (28), and Ben Cheese (33) were some of the brains behind Sinclair Research, working with the notorious Sir Clive on the design of the Spectrum and Spectrum related-products.

One SR project that never got very far, code-named Loki, concerned a powerful music-and-graphics machine that really caught the imagination of the Flare trio - so when Sinclair Research passed into history they decided to form their own company to develop Flare One, the machine profiled on these pages.

The company has spent 2 years developing Flare One, and they're now ready to go into production - but there's just one problem: so far, no major company has signed on the dotted line, despite keen interest from at least two major players in the home computer market. Here at ACE we reckon the machine is a real corker - so get your cheque books out, gentlemen!

video titling, and other professional graphical applications;

- a micro with a powerful blitter chip that offers two switchable screens, vertical and horizontal hardware scrolling, collision detection, and lightning-fast image manipulation?

That, claim Flare Technology, is exactly what the Flare One is designed to do. And although the operating software for the prototype is still under development, the demonstrations we saw went a long way toward proving the capabilities of the micro. However, what's just as impressive is the design philosophy behind it. Flare wanted to design a machine that, while offering significant advances in processing power, also concentrated on taking the micro out of the specialist area of computing and into the wider world of pop and video entertainment.

That's certainly a philosophy that ACE endorses to the full. We were only able to preview the Flare One just before our print deadline so our coverage of it in this issue has necessarily been limited by space, but we do believe that it is an impressive machine with some excellent features - check out our further report on it next month... ●

The prototype up and running in Flare's studio. Using the Flare's very comprehensive MIDI spec you can connect it to a standard synthesiser such as a DX7 and then take full advantage of the machine's patch editing, sample processing, and sequencing software - most of which will be held in ROM and therefore available at the touch of a button. What's going to make the synth manufacturer's really green, however, is the programmability of the machine - which can be made to emulate many modern synthesisers for a fraction of the cost. Those speakers were belting out some pretty impressive stuff when we were there - in full stereo, of course, since the Flare allows you pan from right to left and back again - and cover all the positions in between - unlike the ST (mono) or the Amstrad CPC range (which assigns each of the three voices to a separate channel - left, centre, and right).

THE SPECIFICATION

A typical 'top-end' system would include:

- 128K ROM
- 128K Video RAM
- 768K System RAM
- 2 RS232 serial ports: one variable baud rate and the other fixed at 9600.
- MIDI IN, OUT, and THRU
- Industry standard keyboard interface
- Standard joystick interface
- Light-pen interface
- Stereo audio inputs (for sampling and processing) and outputs, plus 'Walkman' style headphone socket.
- TV and RGB monitor outputs.
- Video expansion bus to allow fitting of frame-grabbers etc.
- System expansion bus for hard disk unit etc
- Lo-res 256 x 256 pixels with 256 colours
- Hi-res 512 x 256 pixels with 16 colours
- Operating software in ROM to include paint program and music editing/synthesis software
- Extended BASIC giving full control of graphics and sound chips.

FOR THE MUSICIAN...

The Flare sounds like a dream come true for MIDI musicians. Not only do you get a comprehensive MIDI spec with IN, OUT, and THRU but you also get processing power that will enable you to produce some incredible sounds.

The DSP (digital sound processor) in the Flare is a custom-designed chip that operates at a VERY fast speed of 6 million instructions per second (MIPS). That alone would be impressive, but it can do this AT THE SAME TIME as it carries out 1 million multiplications per second.

This means that you can store a waveform or sampled sound in memory and then get the DSP to fetch it, modify it by applying a digital filtering algorithm to the data, and then output the sound via the micro's CD quality digital-to-analogue converter. The hardware is powerful enough to allow you to generate eight voices simultaneously, modulated in pitch, volume, and stereo balance at 30K samples per second.

This basic principle is used in a number of professional sythesisers, but in such instruments the program that determines the performance of the DSP is held in ROM and is therefore unalterable. The beauty of the Flare is that the DSP programs are held in RAM and can be altered by the user. You can therefore emulate in software the workings of conventional synthesisers or even invent some of your own. 'We want the machine to start people playing with sound in the same way that *MacPaint* on the Macintosh started people playing with computer graphics,' say the company.

Flare are currently working on built-in software (on ROM, so instantly executable – no waiting for tape or disk) that will include score editing, sequencing, and sound/sample/patch editing modules. The custom chips involved have a strong degree of independence so that you could, for example, edit a sound on-screen while listening to it at the same time.

Finally, the design of the machine enables one, two, or more Flares to be linked together. Then you'd really have something to play with...

MIDI PANEL OF EXPERTS

This month's postbag contains an above-average proportion of oddities, ranging from the 'can you tell me all about MIDI?' sort of question (a spot on the vague side) to queries about MIDI software for the Amiga (less common than you may think) and about MIDI accordions (much more common than you may think). Your MIDI moans mastered by music maestro MARK JENKINS...

'I was inspired by your 'True Love' photostrip to buy a Yamaha DX100 synth and I want to buy ST-based MIDI sequencer, scorewriting and sound editing packages at up to £150 per package. I hope the scorewriter will let me enter data by mouse as well because I'm no Elton John on the keyboard.'
Michael Kingscott, Horsham

Well, the good news is that you don't have to spend as much as £150 on a sequencer. *Super Conductor* from Michtron at around £49 will give you 16 tracks of sequencing, a very helpful display which includes a name for each section of your song, and a capacity of ten different songs in memory simultaneously. If you want to spend a little more, you can go for *Sonus SST* at £99 which looks like a fully professional sequencer (in fact it's a cut down version of the £149 *Sonus Masterpiece*, but still enormously powerful).

Score transcription (converting MIDI data to musical notes on a screen for printout) is rather expensive – *C-Lab Notator*, for instance, is over £400, but includes the massively powerful *Creator* sequencer software and can store synth sounds as well. *Easy Score* from Hybrid Arts is probably the cheapest decent package – like *Notator*, allowing keyboard or mouse entry – call Syndromic Music on 01-444-9126 for price and availability.

Editing packages for the DX100 and other Yamaha 'four-operator' synths are plentiful, and Syndromic Music will probably point you in the direction of their *Soundbits DX100* package. DR T (distributors; MCMXCIX, 01-724 4104) also has a handy package called 4-OP which will handle other Yamaha synths too, and if you want to compose entire songs you'd be better off going for a multi-timbral synth module which can play several parts simultaneously. Yamaha's is the FB-01 and Roland's (the MT32) also includes drum sounds. In either case, you'd need a master keyboard, and Cheetah's are the best bet with, as they say, prices to suit every pocket.

'How would my Commodore 64 sound through a TV set with *Micro Rhythm Plus*?'
Nicholas Kingsley, Chichester

The answer is that it would sound ok, but it's very easy to connect to a hi-fi for better sound quality. If your hi-fi has phono sockets for taps or 'auxiliary' inputs, buy a 5-pin DIN to four phono lead, stick the DIN into the Commodore's audio/video socket, and you'll find one of the phono plugs will deliver perfect sound through your hi-fi (it's quite safe to find out which one by trial and error, but keep the volume low until you're sure just in case). The sound isn't affected by connecting MIDI equipment, although most software designed for MIDI use won't be using the internal sound chip as well anyway, and MIDI synths will either have their own speakers (like the Casio CZ230S) or will need to go into the hi-fi or other amp, certainly not into your TV.

'What you can do with a RAM Music Machine and can you do it with a Spectrum 48K?'
P. A. Horn

This is perfectly feasible, as all the member of the RAM users group will confirm, so perhaps they'd like to write and tell us what they've been doing? Meanwhile if Mr Horn or anyone else wants to get in touch with RAM, they've moved to Units 8, 15 and 16 (sounds like a nasty accident there, doctor) at Redfields Industrial Park, Redfield Lane, Church Crookham, Hampshire GU13 ORE, tel 0252 850085.

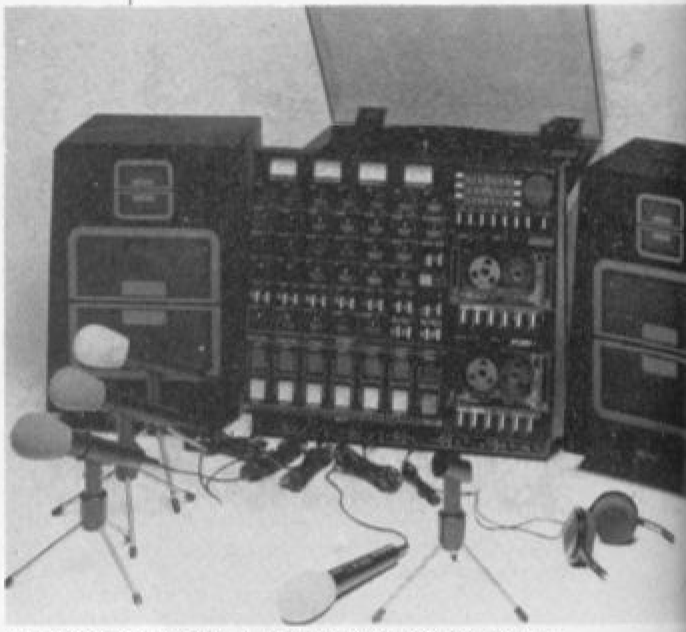
'I want to set up some MIDI gear with an Amiga 500 and wonder (as an avid accordionist) if there's a MIDI accordion I could use in conjunction with it?'
Angelo di Maria

The only Amiga MIDI interfaces we know of in the UK come from Supersoft for £49.95 or so – contact them at Winchester House, Canning Road, Wealdstone, Harrow, Middx (tel 01-861 1166 for more info and possibly some leads on suitable software such as the *Deluxe Music Construction Set*), and from Datel (34.95). If you ever visit the Frankfurt Music Fair you'll find LOADSA MIDI on accordions – they're not so popular over here, but it's worth checking whether either Elka (0787 475325) or Hohner (01-733 4411) import any of their lines into the UK. Either company may be able to put you onto a specialist who will add MIDI to an existing accordion too, and in France the Cavagnolo company make a superb MIDI synth module specifically formatted for a MIDI accordion's melody, chord and harmony sections – no UK distribution as far as we know though. Angelo also says he's noticed that more MIDIphiles opt for the ST – it's not because the Amiga isn't capable of 'doing the same job', it's just that the Atari already has a MIDI socket and about a million times more MIDI software available than the Amiga (unless you go on hols in the States).

'I think you should devote some space to amplifier and mixer needs.'
Andrew Burton, Leeds

You're right, because most synths won't make a squeak without amplification. But it's a pretty large field, and once you've got two or three synths, some effects units and a multitrack tape machine wired up, you're looking at BIG SPAGHETTI. Basically, a single synth will go into your hi-fi – two or three synths will go into your hi-fi via a cheap mike mixer from Tandy. More synths and effects and you're looking at a visit to your local music shop for a small home recording mixer. Portastudios (four-track cassette-based recorders) usually have built-in mixers with four or six channels and facilities for mixing in external effects such as reverberation and echo, and if you're setting up your music system away form your hi-fi, a spare hi-fi amp and speakers will be needed (working on headphones is OK but can give you strange sounding results when played back on speakers).

Amstrad have just launched a 'got-to-have-one' machine for the home musician on a budget. At £299, the Studio 100 combines a four-track portastudio, conventional cassette deck for copying, six-channel mixer, echo, record deck and radio, and comes with four mikes, two speakers, a pair of headphones and backing tapes of drums and instrumental music. If you want a recording studio, hi-fi and DJ setup in one, and aren't insisting on mega sound performance, this is the only fish on the ballgame (to mix a metaphor). ●



Amstrad Studio 100 – a must for the home recordist on a budget.

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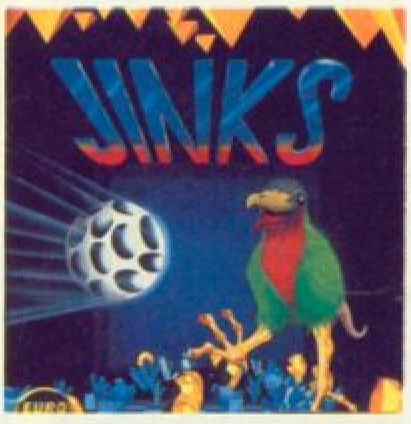

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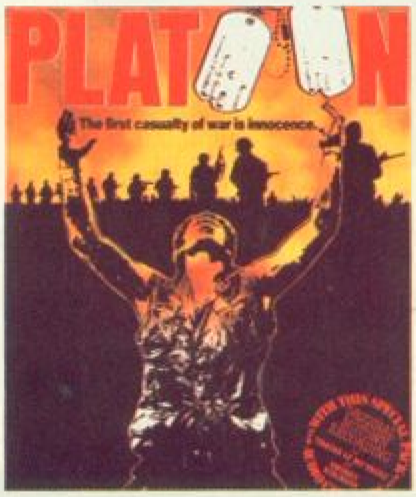
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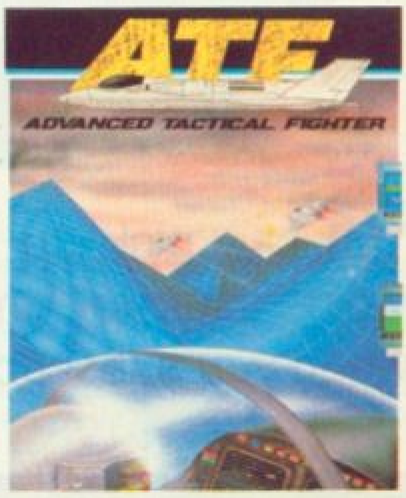

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CBM 64 cass	9.99	**7.95**	AC136CC
CBM 64 disk	14.99	**11.95**	AC136CD
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Amstrad disk	14.99	**11.95**	AC136AD
Atari ST	19.99	**15.95**	AC136ST

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CBM 64 disk	12.95	**10.95**	AC131CD
Amstrad cass	8.95	**6.95**	AC131AC
Amstrad disk	14.95	**11.95**	AC131AD

CALIFORNIA GAMES

US Gold/Epyx

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Spec+3 disk	12.99	**9.99**	AC135SD
CBM 64 cass	9.99	**7.95**	AC135CC
CBM 64 disk	11.99	**8.95**	AC135CD
Amstrad cass	9.99	**7.95**	AC135AC
Amstrad disk	14.99	**11.95**	AC135AD

XOR

Logotron

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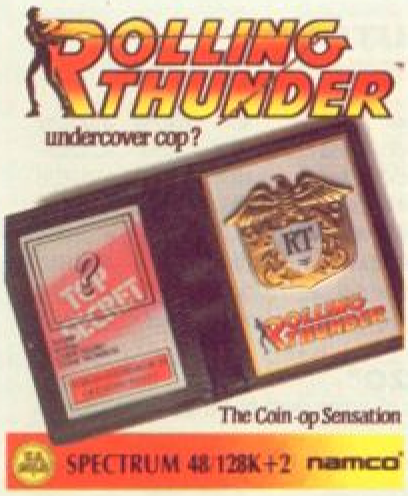
Version	RRP	ACE price	Order code
Spectrum cass	7.95	**5.25**	AC142SC
CBM 64 cass	9.95	**6.95**	AC142CC
CBM 64 disk	12.95	**9.95**	AC142CD
Amstrad cass	9.95	**6.95**	AC142AC
Amstrad disk	14.95	**10.95**	AC142AD
BBC cass	9.95	**6.95**	AC142BC
BBC disk	12.95	**9.95**	AC142B

ROLLING THUNDER

US Gold

Impressive conversion of the Namco coin up featuring an undercover cop in platform shoot-em-up action.

Version	RRP	ACE price	Order code
Spectrum cass	8.99	**6.95**	AC146SC
Spec+3 disk	12.99	**9.99**	AC146SD
CBM 64 cass	9.99	**7.95**	AC146CC
CBM 64 disk	11.99	**8.95**	AC146CD
Amstrad cass	9.99	**7.95**	AC146AC
Amstrad disk	14.99	**11.95**	AC146AD
Atari ST	19.99	**15.95**	AC146ST
Amiga	24.99	**19.95**	AC146AM



MAGNIFICENT SEVEN

Ocean

An incredible value-for-money compilation which includes Head Over Heels, Arkanoid, Wizball, Short Circuit, Cobra, Frankie Goes to Hollywood, and Yie Ar Kung Fu.

Version	RRP	ACE price	Order code
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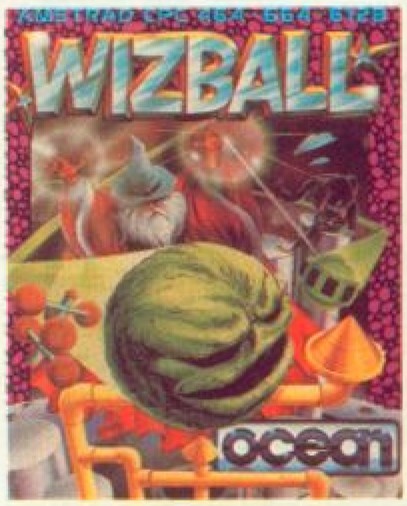
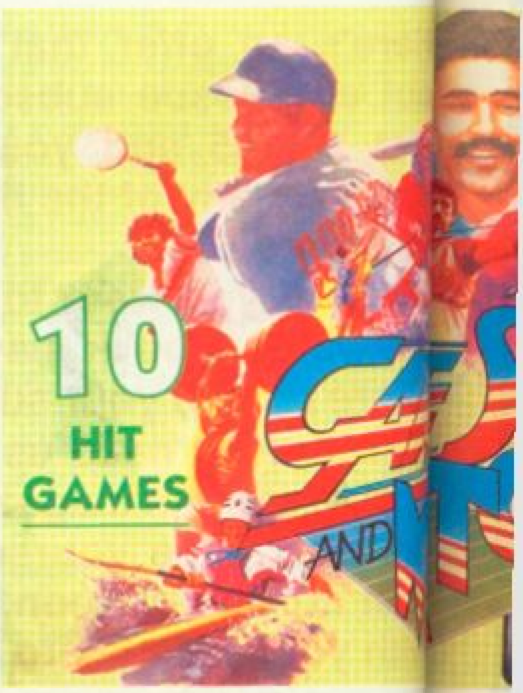
CBM 64 disk	17.95	**13.95**	AC129CD
Amstrad cass	9.95	**7.95**	AC129AC
Amstrad disk	17.95	**13.95**	AC129AD





GAME SET MATCH

Ocean

A massive compilation of 10 complete sports games – including Konami's HyperSports, Ping Pong and Tennis, Daley Thompson's Super-Test, World Series Baseball, Pool, Championship Basketball, Barry McGuigan's Boxing, Super Soccer and more. Incredible value!

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CBM 64 disk	17.95	**13.95**	AC120CD
Amstrad cass	12.95	**9.95**	AC120AC
Amstrad disk	17.95	**13.95**	AC120AD

● ATARI ST TITLES

(In addition to those elsewhere)

Don't miss the incredible **Oids** and **Dungeon Master**, both ACE RATED in the high 900s. **Leaderboard** is the definitive golf simulation, **UMS** an innovative wargame, **Wizball** an addictive, original bounce-em-up. **Epyx on ST** an incredible-value compilation of four hit titles.

Title	RRP	ACE price	Order code
Epyx on ST	29.99	**23.95**	AC154ST
Carrier Command	24.99	**19.95**	AC199ST
Oids	19.99	**15.95**	AC148ST
Dungeon Master	24.99	**19.95**	AC149ST
Slapfight	19.95	**15.95**	AC150ST
Wizball	19.95	**15.95**	AC109ST
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OVER
20
EXCITING EVENTS
ocean

● AMIGA TITLES

(In addition to those elsewhere)

Jinks is an incredible addictive bounce-em-up, **World Games** is the Epyx sports classic, **Hardball** is a great baseball simulation, **Leaderboard** the definitive golf simulation, **Interceptor** is a superb combat flight-sim.

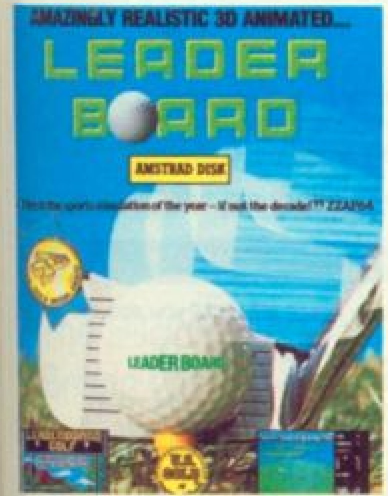
Title	RRP	ACE price	Order code
Jinks	24.99	19.95	AC155AM
World Games	24.99	19.95	AC108AM
Leaderboard	24.99	19.95	AC107AM
Hardball	24.99	19.95	AC152AM
Jinxter	24.95	19.95	AC139AM
Wizball	24.99	19.95	AC109AM
Interceptor	24.99	19.95	AC160AM

● IBM PC TITLES

(In addition to those elsewhere)

These leading games should also run on Amstrad PCs and other compatibles. **Elite** is the definitive space trading and combat game. **Tomahawk** is a sophisticated flight simulator, **Hardball** a great baseball simulation, **World Class Leaderboard** the definitive golf simulation, **Jinxter** is an adventure, **UMS** a wargame, **Tetris** an addictive puzzle

Title	RRP	ACE price	Order code
Elite	24.95	19.95	AC105PC
Tomahawk	24.95	19.95	AC150PC
California Games	19.99	15.95	AC135PC
World Leaderb'd	24.99	19.95	AC151PC
Hardball	24.99	19.95	AC152PC
Jinxter	24.95	19.95	AC139PC
U.M.S.	19.95	15.95	AC140PC
Tetris	19.99	15.95	AC153PC



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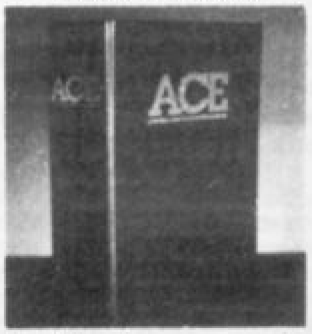

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GET MUGGED!

Encarnita Round, darling of a thousand MUGs, vanquisher of uncountable superheroes, and explorer of infinite game universes hangs up the phone, returns to reality, and tells all about the worlds of multi-user entertainment.

Warning: once you've read this article, the single-player adventure game may no longer satisfy you. After all, once the adventure has been solved, what's left? The challenge has gone and the game's over. Not only that; solo adventuring can be a lonely affair. There is, however, an alternative, a game where there is never really one solution, and certainly not just one player.

Multi-User-Adventuring, really began at Essex university some 5-6 years ago, with *Essex MUD* (also known as SX) by Roy Trubshaw and Richard Bartle. This paved the way for a plethora of similar releases – *Blud, Valley, Rock, Uni, MUD 2,* and *Mist,* to name but a few.

Most games run pretty much along the same lines, collecting treasure and accumulating points and prestige. Of course there are exceptions: *Blud.* was entirely devoted to mass murder, your objective being to maim and mutilate just about anything that moved. Other variations grew out of the original SX: Compunet *MUD, MUD 2,* and an American version under the title of 'British Legends'.

Until recent years the Mult-User environment was pretty much the domain of a small group of computer enthusiasts who either happened to live close to a small Multi-User Game, had access to JANET (Joint Academic Network), or who had an enormous, bottomless wallet to call long distance! The most obvious present-day exception to this rule is *Shades*, developed by Neil Newell and originally run from East Grinstead (*EG Shades*). The introduction of a modified version to Micronet meant that a great many more people were introduced to the concept of multi-user-adventuring. Secondly, and perhaps even more importantly, the cost of telephone calls to a game fell for non-Londoners as 100% of Prestel subscribers can access the system at local call rates. Even though Micronet *Shades* is a charged game (2p/min plus VAT) plus a local call, for many players this is far cheaper than calling a free game long distance.

There has been, effectively, a 'mini-boom' in MUGs over the last few years. Good news for MUGgers! However, most games are limited to one or two lines as the costs of installing telephone lines is a costly affair. The games are there for any intrepid adventurer to delve into, so here's the info...

DON'T FORGET!

CHECK OUT PAGE 102 FOR THE PILGRIM PRIZE QUESTIONNAIRE, AND HELP SHAPE THE FUTURE OF THE COUNTRY'S MOST EXCITING ADVENTURE SECTION.

MUD (Multi-User Dungeon)

An adventure on a grand scale. You gain points by collecting treasure and/or killing others through the levels from Novice all the way up to Wizard/Witch. Like other MU games, it is up to you to decide whether you want to talk to a player, or kill them.

The game has been around for quite some time, growing larger and more complex, as all games should, to maintain players' interest. There's a lot of know-how to pick up on the way, ranging from the movement patterns and likely behaviour of different mobiles to the varying effectiveness of the available weapons – which have a different power value (the amount of damage it does per blow) depending on whether you are fighting a player or a mobile.

There are usually players around who are willing to help and give the Novice hints and tips, but it still takes a long time to get into the game and learn enough to get on with. You may be unfortunate enough to find yourself playing during one of those times when people havn't the time or energy to help so a degree of chutzpah is required for new players and you may receive the initial impression that it is less friendly than some other MUGs.

Where *MUD* scores is in the atmosphere of the world you have to explore. It's not as communal an affair as *Shades*, but once you've overcome the initial embarrassment factor it can become an obsessive exercise in politics, co-operation, and the exercise of power. If you buy your game credits in bulk and can access the system at local call rates, it can also be satisfyingly cheap to play.

■

MUD2 (MUD and Valley)
Registration and further information from:
MUSE Ltd, 6 Albemarle Way, London, EC1V 4JB
Tel. 01-608 1171/3
Access: 80 column scrolling.
01-583 1275 (1200/75)
8N1
01-583 3000 (300/300)
8N1

PILGRIM

The Pilgrim, late of Poona, India, returns to air-conditioned Britain with all the latest from the world of interactive fiction, including a detailed look at multi-user on-line games, *Time and Magik* from Level 9/Mandarin...plus Pat's Patch, Player's Guide to *The Pawn*, and – of course – No Problem!

01-583 1200
(1200/1200) 8N1
(When you receive the '**PAD>**' prompt, type **CALL 41** and then press <*RETURN*>)
Authors & development team: Richard Bartle, Roy Trubshawe, Simon Dally

Cost:

Starter Pack	£4.95
Hourly Rate	
(small orders)	£1.00
(bulk orders)	£0.50

ESSEX MUD/MIST
Access: Via PSS or JANet only.
Games unavailable at present, though *MIST* might be hidden away somewhere on one of the University systems.

SHADES

Shades seems to be the most popular MUG around at the moment if you're judging by sheer weight of numbers, though it has something of an advantage in being part of Micronet/Prestel. The game has, however, made a virtue of popularity by adding several unique communication features between players that must make it the most interactive of all MUGs.

Most people, when they talk of *Shades*, refer to the Micronet version but there is another version; East Grinstead, or *EG Shades*. This is the original game and a test bed for new software changes. The only differences between *EGS* and the Micronet version is that on *EGS* there are only two lines into the game, so that a good deal of the interactivity is lost. *EG* is also only available in scrolling format, whilst Micronet offers scrolling and viewdata formats.

Shades is a good place to start for the new player. It's friendly, and fairly easy to get going. This doesn't mean that the game is too simple, merely that it is not too difficult to get to grips with most of the basics. Many people find that if they can at least explore some locations and get a few items together early on in the adventure, they soon become addicted.

■

MICRONET SHADES
Contact for Prestel/Micronet registration: The Telemap Group, Durrant House, 8 Herbal Hill, London
Tel. 01-278 3143
Access: Prestel. 40 column viewdata and 80 column Scrolling Shades available via gateways.
Cost: 2p/minute + VAT (Micronet members).

EAST GRINSTEAD SHADES
Contact: 0342 810905
Access: 1200/75 scrolling, 8N1
Author: Neil Newell (Hazeii the Coder)
Cost: free

TRASH

Staying with *EG Shades*, you might like to try another game – *Trash*. This is a new game running on an IBM AT linked to *Shades* and accessed by typing 'PCLINK' at the dot prompt.

Trash is still in its infancy in comparison with many games available at the moment. Your job? Leave Trash Control, visit various places, such as 'Shades of a Land' which pokes fun at *Shades*, and collect all the rubbish lying around. Remember, it's trash, not treasure, that will build your points up!

The central themes depend on the lands visited: 'Cabbages and Caves' has a *Dungeons and Dragons* feel to it, 'Off-Centre Earth' is a Middle Earth scenario, whilst 'Starship Wantarise' is decidedly Science Fiction.

The whole game is puzzle orientated, and takes one step closer to being an adventure game for multiple players. Here, the distinction between a MUG and MUA (Multi-User Adventure) becomes more pronounced. Here, most of the things you do are likely to be part of one of the puzzles.

Couple the puzzles with large doses of humour (where do you get a space ship from? Why, you grow it on a space ship tree of course!) and you get a game that's both satisfying and highly enjoyable.

■

TRASH
Contact: 0342 810905 (same as *EG Shades*)
Access: 1200/75 80 col. Scrolling, 8N1
Authors: Ambushbug & Hazeii
Cost: Free
Extra info: Log on as normal to *EG Shades*, at the dot prompt, type PCLINK to connect to *Trash*.

ZONE

Anyone who claims to have been frolicking in my lap, isn't quite doing what you may think! It's actually a new area in the *Zone*. A MUG set up by Chris Butterworth (a.k.a. Gandalf) after someone mentioned starting a game for adults. It hardly seems worth mentioning that the *Zone*, despite having an almost post-apocalyptic name, stands for the Erogenous Zone, and players have to be 18 or over to play.

Here, players can get to Wizard/Witch by either collecting the few items of treasure, or by making love to someone of the opposite sex. The whole process is a product of the state of arousal of the players, how drunk they are, and their state of undress.

It is an interesting way to gain points!

Apart from treasure, collect the glasses, cups and food stuffs. You need these to replenish your stamina after getting physical. Fill the glasses with alcoholic substances from the bar: the bar staff are very obliging when it comes to filling empty glasses!

Beware, though, too much alcohol and you will find yourself incapable of moving the the direction you want. If you persist in drinking yet more you may find yourself suffering from a terminal case of alcoholic poisoning, so moderation please! Watch out for the Green Nasties too, flatulence is not particularly becoming in the middle of some romantic exchange.

You could remain T-total, though arousal to fever pitch (!) is slower – depending on your partner of course, and the food stuffs are limited. Maybe a glass of wine occasionally wouldn't do you too much harm.

There are only a couple of lines into the *Zone*, so you may find that you will have to try to get on many times before you are successful. Perhaps this also indicates the growing popularity of the game too.

It is *friendly* in the *Zone* – make no mistake about it. The nature of the game dictates that players interact to a great degree after all! I enjoy playing *Zone*, well, with my own Sofa in the Recovery room, and a temple devoted to my worship, how could I NOT like it?!

■

THE ZONE
Contact: 01-683 4507
Access: 1200/75, 80 columns scrolling game, 8N1
Author: Chris Butterworth (Gandalf)
Costs: Free at present
Restrictions: Users over 18 only

MIRRORWORLD

Mirrorworld runs on two Master 128s, with the game stored on a 28Mb hard disk. The game, based in Sussex, was orininally set up by a team led by a chap called Philip Cordey (a.k.a. Pippin, who, some may realise, is also an Arch-Wizard on *Shades*!). There are six dial-up ports into the MW front end, which tend to be rather busy, indicating the popularity of the game. There are 10 internal lines too, so you'll find yourself bumping into a great many people.

MW has a pretty standard scenario featuring the almost obligatory Dragon, swords, treasure and a number of puzzles. Try relieving yourself in one of the pools in the gardens some time. Mobiles can be picked up, which leads to an interesting result if you carry Peter Rabbit and Jane Rabbit at the same time!

There are no global resets in *MW*, as in other games. Used treasure is repositioned by an old man who wanders round the game dropping things, which is a little less painful than being thrown off every 45 – 60 minutes!

MirrorWorld has that feel to it that just keeps you playing on and on. Though some players are not quite as friendly as on some games it really is good: persevere with the engaged tone, and give it a try!

■

MIRRORWORLD (MW)
Contact: 0883 844044 (4 lines)
0883 844164 (2 lines)
Access: 1200/75, 80 column scrolling, 8N1
Authors: The *MW* team, led by Philip Cordey (Pippin)
Costs: Free

QUEST 1

Entered via the *Mirrorworld* front-end is a game called *Quest 1*. This was created on an Amstrad 6128. Unfortunately programmer Phil Harling (nickname Amstar) encountered a few problems with the Amstrad RS232 port, so the game was transferred to an SBS PC, where it is running happily at the moment.

The game is also in its very early stages, and still quite small, with only 200 – 300 rooms. Amstar has spent time trying to introduce more players onto the game and now it can cope with up to 16 users, although there aren't quite that many external lines in.

One word of warning though, if you see a button that tells you NOT to press it, then don't! It can be rather embarrassing being reduced from a Wizard to an Apprentice! My only gripe is that the level of Witch hasn't been implemented as yet, being a female Wizard doesn't feel right!

There are some nice touches to the game though. One of which being able to carry not only objects, but mobiles AND players too! You can just imagine the look on a player's face when they realise that they are being physically lugged about by a Wizard!

■

QUEST1
Contact: Same as *MirrorWorld* above
To get to *Quest 1*, type '/host b' at the "*MUTS>" prompt.
Author: Phil Harling (Amstar)
Cost: Free

GODS

The date is 0:99.68 on day 22 of Month 5, in the Year of our Gods 16. In other words, Sunday March 13th at 02:38:32 and Welcome to *Gods*!

Gods is a world based on a North African sea port. Miles of jungles, swamps, lost temples, snakes, vampire rabbits (huh?!), a European city, Kasbah, and even a Colosseum are there for the finding. If you can't locate them all, the coach near the start of the game is useful for just looking around, as a mystery tour of the game can be arranged. A photo session is part of the package so you can admire yourself as well.

Those who play soon realise that points alone are not enough, spiritual development is essential to your progression to Godliness. You need to gain worshippers, since as a God you need them to offer up their treasure in your temple. If not, you will soon fall from favour! Be a good God my son, and let the mortals worship and praise your holiness...

The system of scoring is complicated. You can simply go to a temple and offer your treasure directly to the Gods. Alternatively, there is a ritual of passing on treasure to a higher level holy person. The more players that handle the treasure, the more points each one gets. The system is complicated though: if the rules of the rituals are broken then points can be lost rather than gained.

As if the game wasn't complicated enough, you can always try your hand at Tarimspeke! Tarim is a God, who kindly acted as my guide. However, he has developed his own method of talking, and it takes some getting used to, which just has to be the understatement of the year!

There is a lot to the game: it's large, running somewhere in the region of 2,000 rooms and full of subtle touches that puts it way ahead of many other MUGs. The differences between day and night mean that some puzzles vary with time. Commands develop different nuances the more that you use them, descriptions are very atmospheric, the players friendly, and willing to give a few hints (though no answers!). Certainly a game I would recommend to anyone.

■

GODS
Registration details: Lap of the Gods Limited, Barley Mow Passage, London W4 4PT
tel. 01-256 8427
Access: 01-944 9199, (1200/75 300/300) auto-sensing, 80 column scrolling

Author: Tiger Tiger
Costs: When registering, state which of the following is required.

Monthly (unlimited play time)	£11.50
20 hour unit	£11.50

Credit can now be arranged by credit card by calling the game's Bulletin Board.

WANDERLAND

Wanderland is another fairly traditional MUG run on a DEC. The aim of the game is to collect 524,288 points by collecting treasure and dumping it in the reclaimed land: the equivalent of the MUD 'swamp'.

Treasure seems quite easy to come by, at least, it has been on the occasions that I have played! For some reason, the game isn't quite as busy as some of the other games available. There are plenty of places to explore too; after all, 1500 rooms or so takes quite a bit of getting used to!

It's a pity there aren't a few more players around, although MUGs do tend to go through periods of popularity. Even so, perhaps I'll make *Wanderland* the site of my third Witch.

■

WANDERLAND
Contact: 01-680 5330 (2 lines) open 24 hours
01-681 8081 (2 lines) 6pm-9am weekdays, plus all weekend
Access: 1200/75, 40 column scrolling, 7E1
Author: Ted Greene (Wanda the Arch-Witch)
Costs: Free

HOW TO LOG ON...

First you need a computer plus modem and comms software. Any popular package will do – all MUG's use standard communication protocols. If you're new to comms, relax – most popular software packages are very simple to use and MUGs are straightforward to log onto – you won't find any obscure baud rates or have to deal with techno-puzzles bearing obscure names like Kermit and Fido. You just set up your package and dial the number...

The box following each review gives a contact number for game registration (usually necessary before you can play, especially if playing charges are involved) and the communications protocol for each MUG: note that any costs mentioned do NOT include the telephone charges! Access details give a 3-character code (number, letter, number) indicating word length followed by parity (E=Even, N=None) and stop bit – consult your comms software documentation if you get into difficulty.

TIME AND MAGIK

LEVEL 9/MANDARIN finally get it out...

THERE have already been two Level 9 compilations, released by Rainbird, offering 'updated and expanded' versions of their earlier games. Now the popular 'Time and Magik' Trilogy, featuring *Lords of Time, Red Moon*, and *The Price of Magik*, has been given the same treatment – but exactly what sort of treatment is it, and does the compilation deserve your hard-earned cash?

First, you have to remember that Level 9 wrote all their games, initially, for a cassette-based market dominated by micros with 48K (or even less) usable memory. This put the company in a bit of dilemma when it came to re-releasing compilations of earlier titles: the market had changed and now many users have access to disk and own computers with 128K memories or more.

What's more, with graphics in adventure games becoming increasingly sophisticated, the earlier text-only games produced by the Austin family were beginning to look decidedly old-fashioned. Obvious solution: reprogram the games, adding greater vocabularies, better parsing, and pictures.

However, *Time and Magik* falls into a slightly different category here. With the exception of *Lords of Time*, the games featured are later Level 9 productions that featured graphics in the original versions and – in the case of *Price of Magik* – improved parsing and vocabularies as well. This means that if you already have copies of these games, it isn't going to be worth shelling out for the new compilation – although the graphics have been improved and the games polished up, they don't improve sufficiently on the originals to justify buying a second copy.

On the other hand, if you've only got one of the games – and particularly if that one is *Lords of Time* – then this selection obviously represents excellent value for money. Apart from the new digitised graphics the best thing about the upgraded versions is RAMsave and RAMrestore, features which the Pilg now reckons to be indispensable. Now all we need is a compilation of *The Pawn, Guild of Thieves*, and *Jinxter* for £19.95 and we'll all be laughing...

919
ACE RATED

Time and magik
The trilogy
Interactive fiction from Level 9

RELEASE BOX

SPEC	£14.95cs, £14.95dk	OUT NOW
C64/128	£14.95cs, £14.95dk	OUT NOW
AMS	£14.95cs, £14.95dk	OUT NOW
ATARI ST	£19.99dk	OUT NOW
AMIGA	£19.99dk	OUT NOW
IBM PC	£19.99dk	OUT NOW

LANDSCAPE	90	**SYSTEM**	88
CHALLENGE	94	**ENCOUNTERS**	69

ACE RATING 919

THE GAMES...

LORDS OF TIME

For a long time, the Pilgrim's favourite Level 9 adventure. A simple scenario, in which you must collect nine artefacts to defeat the infamous Timelords, is superbly programmed into nine separate 'mini-adventures', each representing a different time-zone – ranging from the prehistoric to the distant future. The game was the first Level 9 program to be written by an outside author and the text is excellent, with vivid descriptions and some ingenious puzzles. If you get stuck at the beginning, let the Narcissus get a glimpse of himself...

RED MOON

This marked Level 9's return to magical mystery following their detour through science fantasy in *Snowball* and *Return to Eden*. For many readers, including the Pilgrim, the return was a welcome one as you battle against the evil magician Hagelin to save an all-important crystal, source of magical power on the planet, from being put to dark and hideous uses. Spells galore and a wonderful atmosphere of dragons and distorted reality.

THE PRICE OF MAGIK

Back to the Red Moon for the last in the series, in which you must use magik spells to defeat the evil Myglar. The title of the game refers to your progressive loss of sanity as you become involved in magikal endeavour – and indeed some of the puzzles are rather tricky, though not (to my mind) as satisfying as those in the earlier games, particularly the excellent *Lords of Time*.

THE PILGRIM'S PLAYERS' GUIDE TO *THE PAWN* – PART 2

Problems with the Adventurer? You'll recall that Old Kronos asked you to knock him off – just give him a present and that will do nicely.

You can't carry the Adventurer, so get someone else to do it for you. They can carry you as well, and will also provide light in dark places. You can get down whenever you want – in fact, you'll have to sometimes to perform certain actions.

If you have trouble with broken objects, PUT ALL ON THE HORSE. If later you experience a rushing sensation after BREAKing THE WALL, simply make your way EAST back to the Lava River, where you will find Dobbin waiting patiently for you.

No, you shouldn't have entered the MAZE, should you? Simply EXIT MAZE and all will be well. Make sure you retrieve the BLUE KEY from under the pedestal. And before you return to the Guru (who's expecting something from you – remember?) make sure you GET THE BOWL and PUT SNOW IN THE BOWL. He'll be ever so grateful...

After satisfying the Guru, pop off to the forest clearing and examine the STUMP. Red, green, and blue mix together to make...yes, it's your new source of light. RED will also seriously affect the SNOWMAN, allowing you to the GET THE PRISM – though what good it will do you isn't glaringly obvious.

Make sure you're wearing the SPIKY BOOTS and pop up the slope. And before we leave you this month, just make a note of this – you CAN open the locked door with the blue key, but if you do, you'll end up 40 points poorer. Best thing to do is SAVE your game, then unlock the door and satisfy your curiosity. Later you can reload and carry on with key and 40 points to collect elsewhere...

Watch out for Part 3, in which you deal with the Alchemists and Jerry Lee Lewis. This guide is brought to you thanks to the Pawn, Magnetic Scrolls, the Pilgrim, and Honorary Pilgrim Mark Hodsman. Let's have some more solutions, everyone...

CONTACTING THE PILGRIM

Although the Pilg can't guarantee to reply personally to all correspondents, he does very much appreciate a letter or two on any aspect of adventuring or related subjects. We don't print letters every month, but we're always prepared to make space for someone putting his brain where his mouth is.

You can write to the Pilgrim c/o ACE, 4 Queen Street, BATH, BA1 1EJ. Don't forget the c/o ACE bit otherwise you might find your letter ending up in Amstrad Action! If you're devilishly technical and have a modem, you can contact the Cowled Crusader on Telecom Gold, MBX 83:JNL251. Look forward to hearing from you...

NEXT MONTH...

Summer is icumin in, Pilgs, and you'll find it celebrated on these pages by a close look at the *Ultima* series – promised before but postponed so we could give you more space for other goodies. It'll be scorching the pages of the next issue – promise! And of course there'll be the usual reviews, news, and tidbits from the world of fantasy and adventuring – so don't miss it!

PAT'S PATCH

Isn't it amazing how often adventurers who are perched in trees can drop objects and pick them up again without climbing down to the bottom first? It wouldn't happen in the real world so why allow different physical rules to apply in an adventure simply through lack of attention to detail? Here are routines to inject a little realism into your PAW or GAC games, both of which take little memory and are simple to use...

Both routines drop the relevant object before moving it so that the built in error check is invoked. Thus the conditions won't work unless the object in question is being carried. Also with GAC in particular, only the GET and DROP actions adjust the amount deemed to be carried so DROP must be used to ensure this is done. If the object were to be shifted directly from 'carried' to the foot of the tree its weight would not be removed from the player's inventory so making a nonsense of any strength limit which may have been set.

In each case the routine MUST be inserted before the normal drop conditions otherwise it will not be read at all. GAC users can ensure this by putting the routine in the local conditions for the room which is 'up the tree'. PAW users should think about setting up a similar routine for 'drop all' too, again to be placed before the normal 'drop all' condition.

There are plenty of other situations which would benefit from this approach. How about dropping objects in a swamp, or while flying? Some objects could smash when dropped, or bounce away out of sight. Other characters could steal thing as they are dropped if they happen to be there at the time, or could be attracted by easy treasure lying around. The possibilities are endless with a little imagination, and they all add something to a game making the player feel that the adventure world really does behave as it should.

```
===========================================================================
                 PAW ROUTINE – (In response before normal 'DROP _' entry)

DROP        _        AT       {up the tree}
                     AUTOD
                     PUTO     {foot of tree}
                     MES      'You watch as _ tumbles to the ground'
                     DONE
===========================================================================
                 GAC ROUTINE – (In Local Conditions for room 'up the tree')

IF ( NO1 < 255 AND VERB {drop} AND AT {up the tree} ) DROP NO1
NO1 TO {foot of tree} MESS 'You watch as' OBJ NO1 MESS 'tumbles to the ground' WAIT END
===========================================================================
```

NO PROBLEM!

The Pilgrim's regular selection of hints and tips for harassed adventurers. Don't forget that YOU can achieve everlasting fame by sending in tips for your fellow wanderers to **No Problem! c/o The Pilgrim, 4 Queen Street, BATH, BA1 1EJ.**

This month's tips are supplied by Jason Hand, Leekie (?!), John Valentine, Barry Chandler, and P. Blythin.

KINGS QUEST III

Open wardrobe in wizard's bedroom then look above wardrobe for key to open wizard's safe.
Leave cupboard open in wizard's bedroom then look behind it and you will find the magic map.
Leave dough in ears as the wizard can't see it.
To dodge wizard on the pirates ship stay on the ladder.
To defeat the dragon use the storm brew.

Knight Orc

To enter castle, throw something at the drawbridge.
The rope is comprised of the halyard, the washing line, the noose, the tether, Rapunzel's hair, the cord, the belt, the lasso and for the last piece investigate the well...
When in Paradise, take off your visor, open the door, go inside, examine everything, and then take the Machine and use it to recruit the mouse and the dragon.

RIGELS REVENGE

Troubled by a worm? Follow tracks.
To get uniform, throw rubble at light.
To get past the guards, find bomb then introduce it.
To enter hut, use bomb.
The patch and dingy are red herrings (examine them and note the sizes).
To find pass, exam seat in truck.
To get past check point, wear uniform, hold rifle, and follow troops.
Trouble with android, look under bench.

PRICE OF MAGIK

A few of the spells and their uses:

Spell	Focus	Effect
BOM	Trumpet	Brings things to life
DET	Elder cross	Makes things feel secure
DOW	Pendulum	Tests if an object is dangerous
ESP	Crystal ball	Sees into things
FIN	Chain mail	Turns things into fish
FIX	Valerian plant	Restores stamina
FLY	Broom	Makes things fly in the air
IBM	Blue Box	Puts fear into things
KIL	Axe	Makes things kill more effectively
MAD	Grimoire	Makes things insane
SAN	Claw	Makes things sane
XAM	Prism	Tests for magik
ZAP	Ash	Casts a bolt of lighting
ZEN	Small mirror	Transports you to Mists of Time

THIS IS YOUR CHANCE...

...to shape the future of ACE's adventure and fantasy section – and win yourself some free software into the bargain.

WHAT YOU DO...

Fill in this form and post it to Pilgrim Questionnaire, ACE, 4 Queen Street, BATH, BA1 1EJ to arrive not later than the closing date of July 20th 1988. Make sure you include your name and address in case you're one of the lucky prizewinners.

WHAT WE DO...

Listen to what you have to say and act on it. The Pilgrim is committed to giving you the best possible column every month - to do that, he needs to know exactly what you want. Tell him!

THE PRIZES

Every form received before the closing date will be entered into a free draw and five lucky Pilgrims will receive a top-quality software package for their machines chosen from the ACE special offer pages on pages 94/95 of this issue.

Your name: ....
....

Your address: ....
....
....

Your age: Under 12 ☐ 13-16 ☐ 17-20 ☐ 21-25 ☐
26-30 ☐ Over 30 ☐

Are you: At school ☐ At college/university ☐ Neither ☐

Which computer(s) do you own? ....
....
....

Do you have: A disk drive? ☐ A modem? ☐

The following sections appear regularly in the Pilgrim pages of ACE. Rate your interest in them out of 10 (10 = most interested; 0 = not at all interested):

Reviews	....	Players' Guides	....
Pats Patch	....	Travellers Times	....
Shades Diary	....	Readers' letters	....
No Problem!	....		

If you have any comments on the above sections, or would like to suggest new ones, then please feel free to do so on a separate sheet of paper – we welcome your suggestions!

Rate your interest in the following general topics out of 10:

Non-computer role-playing-games (e.g. *Dungeons and Dragons*)	....	Adventure generators (e.g. *Quill*, *GAC*)	....
Computerised role-playing games (e.g. *Bards Tale*, *Ultima* series)	....	On-line games e.g. *MUD*, *Shades*)	....
Science fiction books	....	Text-only adventures	....
Fantasy books	....	Play-by-mail	....
Cinema	....	Icon-driven adventures	....
Text/graphic adventures	....		

List your three favourite adventures: ....
....
....
....

List up to five adventures which you do NOT own but would like to play: ....
....
....
....
....

Name up to five software houses who produce adventure games: ....
....
....
....
....

How do you buy your adventure games:
From a specialist computer shop ☐ By mail-order ☐
From a High-Street store (e.g. Boots) ☐

List up to three adventures that you have found particularly difficult to solve: ....
....
....
....

As a rule, do you find the adventures you play:
Very easy ☐ Easy ☐ Challenging ☐ Very challenging ☐ Too difficult ☐

How much playing time do you normally get out of an adventure game?
....

Do you ever contact other adventurers via magazine helpline columns for assistance? By post ☐ By phone ☐ If so, do you find them helpful? Y/N

Do you ever contact software companies for help in solving one of their games? By post ☐ By phone ☐ If so, do you find them helpful? Y/N

How much money do you spend each year on adventure/fantasy software?
Under £20 ☐ £20-30 ☐ £30-40 ☐ £40-50 ☐ Over £50 ☐

How many adventure/fantasy games do you think you have played?
1-10 ☐ 11-20 ☐ 21-30 ☐ 31-50 ☐ Over 50 ☐

Of those you have played, how many do you think you have played in the last 12 months:
1-10 ☐ 11-20 ☐ 21-30 ☐ 31-50 ☐ Over 50 ☐

How many adventures do you expect to play in the next 12 months:
Same as last year ☐ Less than last year ☐ More than last year ☐

You needn't tear out this form - a photocopy is quite acceptable. If you need more space to answer any of the questions, don't hesitate to grab another sheet of paper and go into more detail.

ACE LETTERS

Last month we promised an end to the Great Piracy Debate. Well, we lied. You've still got things to say, and who are we to deprive the people of a voice?

Other hot topics include the old 'my machine is better than yours' stuff; a prize goes to one of the few sane voices we've heard on this subject. Are micro owners the most snobbish people in the country?

If you want to get one up on your neighbour by getting your name in print (and possibly winning a prize into the bargain) write to ACE letters, 4 Queen Street, Bath BA1 1EJ.

POWER PROBLEMS

I am thinking of selling my Commodore 64 and saving to buy an Atari ST. However, my family and I may soon be moving to Canada. Straight down to the point – is it possible to buy an ST in England and still play it in Canada? If so, could you please tell me any alterations I would have to make.

Ian Sutton
Beaconsfield

Canada uses a different voltage in its electricity system. If you buy an ST with monitor you will need to use a 'step-up transformer' to convert the voltage (should cost around £20-30). But wouldn't it be more sensible to sell your 64 here, then buy the ST when you get to Canada? You won't have the trouble of transporting it, and it will probably be cheaper.

MOANER

I wish to complain that you said that there were no graphics programs for the Sega. Well you're wrong! There is. Actually it's a graphics tablet, although a UK release date has not been set. Also you can get a keyboard for it. The *After Burner* game was given a bad review. It's one of my favourite games and C&VG gave a brill review. And I bought it and I love it! Lastly, I think your review mark is a good idea.

J. Thornley
Harpenden

OK, so there is graphjics tablet for the Sega – but it's not a lot of use if you can't buy it here, is it? After Burner *looked very pretty, but there really wasn't much of a game there. The fact that C&VG gave it a good review doesn't carry a lot of weight around here.*

YET MORE ON PIRACY

On the subject of software piracy, it is very easy to say that it is immoral, but one can also say that of the games manufacturers who charge very high prices for sometimes mediocre or rubbish games. Take for example *Kwasimodo* for the Amiga; this game is a joke and I'm sure the ZX81 had better games.

In the days when I owned a Spectrum it was good value for money to buy the better games around. The argument was that you would be able to play 100

A SANE LETTER

PRIZE LETTER

Way back in the beginning I had a 48K rubber keyboard 'Specy' and, to tell you the truth, I loved it. From the striking colour clash to the melodious beeps, it satisfied my needs perfectly. Games were cheap, and apart from a few, most were addictive and higly playable. But, as so frequently happens in life, this contentment was ruined by (yes, you guessed it) those criticising hypocrites, those melancholy *** that sit in wait, ready to pounce on an innocent micro-owning victim, telling them that their computer is the scum of the Earth and that there are countless machines better (in other words, the majority of people that write in to ACE).

So, after four years, feeling claustrophobic with all those intimidating comments I upgraded to an Atari 520ST.

I couldn't believe it, the power at my fingertips. A slick new keyboard with built-in disk drive (complete with 'yuppy' finishing touches – a mouse and mouse mat), not to mention the graphics and the quality of the games AND IF I MAY DARE TO SAY SO, IMPRESSIVE SOUND. I felt ecstatic, joyous, floating on bubble bobbles (but not for long) because, to my sheer amazement those nitty gritty, good for nothing hypocrites were yapping at my heels again. I had just spend three hundred quid on a brand new computer, not to mention software which costs a bomb and these 'beings' were sneering at me.

I can't win. Even if I bought an Amiga there would always be the mention of the Archie. I am not saying it's not good to have competition in computers. What I think should be made clear, though, is that people have limitations on what computer to buy according to how wealthy they are. This should be made more apparent to those condescending idiots out there that have nothing better to do than pour scorn upon those that do not have the necessary 'readies' to buy the better computer. After all, any computer is better than none!

Seymour Lightman
Luton

Give that man a prize! It's refreshing to hear a sane and humane view of computer snobbery.

PBM STRATEGY

PRIZE LETTER

I have just read Issue 8, and I have to say that I am most impressed. I particularly enjoyed Simon Beesley's article on *Life* and its derivatives. I had already read William Poundstone's excellent book, but I had little knowledge of *Life's* many succeeding generations. Many thanks for a fascinating essay.

My principal interest is in Play-By-Mail (being an Apricot owner, what else can I do?), and it was because of this that I purchase ACE. But then I became absorbed by the preceding review of Strategy Games. As this is a major area of development in the PBM world also, it occurs to me that there may be much that each can borrow from the other.

For example: I have designed a global war strategy game, called *Megalomania*, that has been well received by PBM-gamers. A smaller version for 2 players could be a very challenging game for a computer format: 'challenging' because several dozen decisions have to be choreographed into a plan that is then executed simultaneously with that of the enemy. This involves a high level of strategy, especially if the opposition is programmed for various levels of difficulty.

Similarly, many other PBM strategy games would be excellent subjects for computer games. And the benefits would work both ways: computer games buffs could enjoy well-researched games whose emphasis in on gamesmanship; and PBM-gamers would welcome the opportunity to practise new ploys and tactics.

Any comments you might have as to the merits or otherwise of this idea would be much appreciated. A few suggestions as to how to go about it would also be welcome.

Finally, my congratulations for the inspiration of the brain teaser on pages 4-5: it gave extra depth to an ACE magazine!

Andrew Dodd
London

The best thing we can suggest is that you get in touch with a company that produces strategy software – your ideas are certainly interesting, and you should get a good hearing. A few companies you might try are PSS (0203 667556), CCS (01-858 0763) and Target Games (0279 30128).

games on a games machine (10p a go), whereas you would play many more times on the computer version for the same price – good value for money. However with the arrival of the ST and Amiga with games costing £20 to £25, it may be more economic to play the coin-op as you may not spend as much as £25 on it before you become bored with it.

This brings me to the topic of piracy. I don't condone the copying of games between friends, but copying on a large scale is a different matter. Copying between friends on the Amiga is an unlikely thing as you either have to buy expensive software to break into a program or be an expert hacker, plus the fact that you have to know another Amiga owner.

The professional pirate who makes a living or a lucrative sideline on selling pirated games is the one who is doing the most damage to the software industry. The person who runs this type of business is copying games using those handy backup programs. What is the purpose of a backup program? I have had hundreds of games and never once has an original copy not worked. Even if there had been a fault I am sure the tape would be replaced. In other words the professional backup program is sold for the purpose of copying software.

Software prices are therefore pushed up due to loss of revenues and the vicious circle continues. The only way to break this vicious circle is to buy **originals**. If you look at the various advertisements in magazines many top quality games can be bought for under 12 pounds. For example *Barbarian* (Palace) £10.50 or *Sidewinder* (excellent game) £6.99

I recently read that some Amiga games are outselling their counterpart ST games. This must mean more software development for the Amiga, so keep buying originals all you Amiga owners out there.

Finally I think ACE is a very professionally written magazine and I especially enjoy the specials. What about more Amiga reviews?

Niels Campbell
Cardross

Point taken about quality and price; there are some very expensive and very naff games about. But nobody bothers to pirate these – it's the ***good*** *games that get copied. We review all the Amiga stuff we can lay our hands on.*

IDEAS MAN

First of all a couple of ideas you could think about:

1. How about reviewing new video releases?
2. How about a high score chart?
3. How about a chart for games?
4. How about making the covers a bit more interesting to look at?
5. How about me shutting up about this and how about that? Maybe there's a couple of ideas here.

I think your competitions are great and the way you go about solving them is brilliant. Your reviewing method is top of the range stuff – 10 out of 10 for that. Is there such a thing to make you able to play Commodore 64 games on a Plus 4? I've always wanted to know that. Oh yes, while rummaging through all the mail a couple of weeks ago I found a neatly addressed envelope with my name on it. I quickly ripped it open and saw a flash of the name ACE on it. I thought '****, I've won a competition'. With my heart beating 620 a minute I quickly read it to find it was a subscription offer. My heart sank, but then I thought this magazine is obviously not just thinking of money sending a letter to me with my name on it. By the way, where did you get my name from? I think you will be a very successful magazine but I just hope the success won't go to your head like it has with certain other magazines. Well my dad has just come round the corner from his dinner hour so I will finish here.

Sheridan Smyth
Telford

I liked number 5 best, but I'll answer your other points as well. ACE is a magazine about computer entertainment, so we don't really think video or cinema releases are appropriate – except where they deal with computer matters or use computer technology. We may do something about high scores. The covers are already interesting to look at. Finally, C64 games will not run on the Plus 4. However, C16 games will.

THE LAST STAMP

You are my last hope (saving the best for last). I have written to many magazines and have received no reply at all, this is my last stamp.

I own a 520STFM with both memory and drive upgraded to 1 meg and am going to set up a Bulletin Board but I can't find a program that will allow me to do it.

I used to own a Bulletin Board Construction Set for my 800XL and was wondering if there is something like this available for the ST? Also I was going to buy the Supra Modem 2400 from Frontier Software – do you think this will be OK for a BB?

Mark Grimes
Leigh

Unfortunately, there's no BB construction kit for the ST. But you can use a Supra Modem to run a BB.

OBLITERATED

Greetings to all fellow Atari ST users. I feel it is my duty to warn you about the latest game from Psygnosis, *Obliterator*. Last week I was in my local computer dealer's shop when to my amazement I spotted *Obliterator* on the 'latest releases' shelf. I immediately dived into my heavy pocket, full of birthday money, and bought the game. On the way home I admired the graphics and read through the short story. As soon as I arrived home I rammed disk A into the disk drive and turned on the computer. It started to load. The first thing that appeared on the screen was the usual Psygnosis title but this time there was music; anyway, this really turned me on and I started to believe that this game was incredible. It seemed to take years to load but once it had I began to play.

My first impression was 'Oh no not icons at the bottom of the screen again', but even so the game had excellent graphics. I began to play but after about five minutes I found it pointless playing as I didn't really know where I was going, so I got out my pencil and my mapping book and began to map. Three hours of mapping passed which was not at all exhilarating, especially when you tell the man to go one way but he goes the other. In fact, the only interesting part was the section of screens where you fly through space with the jet-pack. After four hours of mapping I picked up my last item and I was prompted to leave the ship. This task proved a cinch considering that I had a map. Two minutes and I was at the shuttle station. I had made it only to have the disappointment of witnessing a pathetic explosion from my cockpit.

I therefore phoned up Psygnosis but all they could manage to say was 'Well, thanks for your comments. Good-bye.' I was by now furious and so I decided to draw the map out neatly and send if off to ACE hoping that it might be tip of the month and also write this letter to ACE warning anyone who intends to buy this game as you will find it disappointing, frustration, boring and a waste of money. In my eyes it is just another *Barbarian* with a gun in the man's hand.

Greg Bowen
Coventry

Well, it's the kind of sad experience that happens to all of us sooner or later – you look forward to a game and then find yourself bitterly disappointed. The moral is – read the review in ACE before you buy.

GRUMBLES AND INSULTS

I would like to have a little grumble about those people who say the dear old CBM 64 is slow!

The Commodore is not slow, due to the fact that using sprites etc IRQ (INTERRUPT REQUEST) makes control very fast (some games I've got are *too* fast!).

The Amstrad games are much slower than the Commodore's and I think the Spectrum is too, due to the fact that:

(a) They haven't got sprites, just UDGs.

(b) They are not as sophisticated as the Commodore.

(c) The Commodore has more memory for games, thus making them better than the Amstrad and Spectrum computer versions of the game.

Next – who's the berk who writes the replies? How do software programs make the computer flash the screen and load? Finally, where can you get an Assembler/Disassembler?

Nicholas Kingsley
Chichester

I am 'the berk' who writes the replies, and I have taken full note of your name and address. So watch it. You should be able to buy an assembler or disassembler from any well stocked software shop.

PREDICATE CALCULUS???

Well done to the entire ACE team for such a superb, high quality, full colour, informative magazine which is second to none. Your reviewing system is not only unique, it is also brilliant. Keep up the good work and long may ACE continue to prosper.

In the eight issues of ACE I have so far purchased quite a few controversial topics have been debated; but none more so than piracy. All I want to say on the subject is that it is having a detrimental effect on the software industry; but what can we do about it? No sooner do software companies come up with new protection systems than somebody comes along and cracks them.

I would also like to say that Neil Wilson is a right prat. Where does he think Sinclair Research would be now if Amstrad Consumer Electronics Ltd hadn't bailed out Sir Clive? Probably bankrupt, that's where. His slagging off Alan Sugar is also unjust; Mr Sugar and Amstrad have been manufacturing goods since 1968 and he hasn't got to where he is today without good after-sales service. Wilson and people like him should think carefully before letting rip and even then they should ensure they get their facts right.

I would like to know if you recommend a text on predicate calculus. I am also looking for a copy of PROLOG for the Amstrad CPC464 which will run without CPM present.

Finally, my dad has just acquired an Oric Atmos and he was wondering if there was anywhere in Britain where he could obtain software for it.

Stuart Bowers
Cleator Moor

A text on predicate calculus? That's one of the weirdest requests we've ever had. Our resident mathematicians and philosophers couldn't come up with any specific titles, but suggested that you browse the shelves in a good bookshop – preferably one near a university. As for Prolog, we can't come up with a version that runs without CPM.

The Oric: incredibly, you can still buy software for the old dear. WE Software in Malvern (06845 69059) have a stock of around 40 titles – both games and utilities – and can also carry out most Oric repairs.

BURYING THE SPECTRUM

As I was flicking through the Letters pages in issue 8 I stumbled across your Prize Letter written by J. Williams. It started promisingly enough until I reach Feb 6th. My jaw dropped and eyes widened as I got near to the bottom of the second column. 'What was this?!?' I asked myself. This person had put a Commodore 64 into the class of a ZX81!!! I pinched myself and reread the sentence. I wasn't seeing things for it was there in black and grey. My amazement half

VIRUS

LETTER OF THE MONTH

I am writing to you in order to clarify a major problem on the Amiga computer, namely 'The Virus'. In my opinion the virus does more damage through people's ignorance of it than it actually does to disks. It is not however a good idea to have it on any of your disks, as it does on occasion corrupt them.

The first point to clarify is that the virus cannot ruin your computer. Once the computer is turned on and off the virus is gone, it is impossible to destroy most computers with software. When the News at Ten said that hundreds of Amigas were being returned due to corruption due to the virus, they were wrong (think what that must have done to Commodore's UK sales figures).

There are now many different viruses around for the Amiga, the most well-known is the original SCA virus, which is easily disposed of and not really a problem. When the SCA virus is loaded into the computer from an infected disk it immediately goes to a place in memory where it is not affected by a keyboard reset. It then waits until 16 disks have been put in the disk drive, copying itself to any un-write-protected ones, and then prints up the infamous message 'something wonderful has happened...your Amiga is alive'. A new and far worse virus called the Byte Bandit Virus works in the same way but when it decides to show itself it simply crashes the computer, showing no message. This is far worse, because the user will not realise he has this virus.

The easiest way to get rid of MOST viruses it to install the disc. This however will destroy most original, uncracked software, especially Electronic Arts software, as this has most of the protection on the boot sector (the boot sector is at the start of the disk and tells the computer what do do when the disk is first inserted. It is also the home of the viruses. Install erases the boot sector and writes a new blank one). A number of virus killers have been produced. The best way ,however, is to use a monitor and 'surgically' remove the virus. Some knowledge of machine code is needed to do this, and it is not a good area for the amateur to play around, as you could do a lot more damage than any virus. The best way therefore is to use a virus killer, but because no one virus killer kills all viruses, if you are informed by an SCA virus killer that there is no virus present, this may not be true.

I have compiled a disk that contains 9 different virus killers to kill all viruses. For a small charge of £2.50 I can provide you with a disk with these 9 on. I am making no profit out of this because by the time I have bought a disk, jiffy bag and stamps it has cost me £2.50. Write to the address shown in an envelope marked 'Virus Killer' or rink and ask for Chris.

Chris Henderson, 14 Park Gate, Knaresborough, N. Yorkshire HQ5 9DR

Your lucid explanation of the various viruses and your offer of a cure at reasonable price wins you, sir, a letter of the month free game.

turned to anger as I read on.

As you have probably realised by now I'm a C64 owner. I am totally disgusted at this beloved computer of mine being called, I quote, '...well out of date'. I can well understand him having his heart set on an Atari ST because I know it's a brilliant computer too as I have friends with Ataris. The C64 is nowhere near the class of the ST, I know, but degrading it in such a manner is totally... I'm lost for words. I'm sure many C64 owners must feel the same way. I mean, a ZX81!! Isn't that pushing it a little?! I've always hated Spectrums and always will mainly because of the atrocious graphics it dares display. I must admit the C64 had its little spell as THE micro once-upon-a-time but is slowly being pushed back by the likes of the Atari ST, Commodore Amiga, and maybe even the Archimedes, but here's telling you, J. Williams, IT IS FAR FROM GOING OUT AND THERE IS ABSOLUTELY NO COMPETITION BETWEEN THE COMMODORE AND SPECTRUM.

I wouldn't like to finish on a bad note so I will just end by saying that I think that it deserved to be a prize letter due to your perseverance (with exception of what I have just touched upon) and as for you Speccie owners... I have nothing against you personally but... Throw away or sell your computers and buy something worthwhile because in my opinion Spectrums are well and truly DEAD!!!

G. Ababs
London

We await with interest the replies of those dead Speccie owners...

3D PLEA

I have a Commodore 64 with a 1541 disk drive. I am very interested in 3D graphics, particularly 3D-C.A.D. of objects and their animation.

I understand that these techniques require a large amount of computing power and that the Amiga is the ideal machine.

However, recently I have been tremendously impressed with such games as *Arctic Fox, Chuck Yeager's AFT, Driller, Elite, Starglider* – all of which utilise these techniques very impressively within the limited memory capacity of the Commodore 64.

Interestingly, Electronic Arts state on the cover of their *Arctic Fox* that they used a proprietary graphics package called *3-Space* to create the 3D world of *Arctic Fox*. Is this software available in the UK; if so, where and how much?

Are there any other graphic packages that deal with these techniques so I can design and animate my own computer-generated objects?

Also, I think the subject of these techniques would make an excellent feature in a future issue of your magazine, as I am sure many fellow readers are greatly interested in 3D-C.A.D. and animation.

Peter J. Atherton
Newcastle-upon-Tyne

You really have got to start thinking in terms of swankier machines if you want to do serious 3D work; the C64 is really too slow, and the kinds of development system you mention (and other systems, such as Incentive's Freescape*) are not available commercially. If you want to do-it-yourself, and you have some maths and machine code, then you should get hold of* Fundamentals of Computer Graphics, *by Foley Van Dam; this is reputed to be the bible of 3D graphics programming.*

LETTER FROM OZ

I wait eagerly every month for your issue even though it is 2 months behind. I would like to congratulate you on a brilliant magazine. The pages are full of wonderful information. For the price at $5.00 Australian it is cheap compared to other magazines here.

I am a newcomer to the Atari ST and would be interested to hear from other users wishing to be penpals.

W. Van Leeuwen,
4 Batten St, Nerang 4211,
Australia

Glad to be of service, Van. I'm sure you'll be getting letters any day now.

LOADSAMEMORY

16-bitters don't need to war, we got loadsamoney, loadsamemory, loadsasoftware. We got loadsa ST variants... well, we got 2! The old TOS (which is three years old) and the new TOS v1.09. It don't make tea yet though.

16-bit Amstrad? Waste-a-time – Sugarites ain't got loadsamoney!!

A.O.C. (Adult Orientated Computing)? Great. Same as A.O.R. – loadsahum-drum for loadsamoney; as big a threat as piracy... loadsaparasites!

Home computing? Loadsafun enhanced by a FEW risks! Even fewer if you read ACE (providing it doesn't suffocate itself by too many Adult Opinionated Views).

H.A.P. Juszappin
Inverness

Harry Enfield's got a lot to answer for...

GAMES DESIGN

I am the very proud owner of an ST. When purchasing the computer, I was hoping to be able to program it fairly simply. When I first opened the little brown box which my accessories were packaged in I found the language disk. Quickly I load it up, anxious to do a spot of useful programming. I was so disappointed when I started because it was just rubbish. My old 48K Speccy could do more than this. Anyway, the reason I am writing this letter is because I would like to get hold of a DECENT games programming program for the STFM, e.g. *Shoot-em-up Construction Kit, 3D Games Maker, Graphic Adventure Creator* etc etc. Please, please could you advise me as to where I can obtain a suitable program!

A. White
Eastbourne

None of the programs you mention is available yet on the ST. However, there's a four-disk games designer for the ST on its way from Mandarin Software in the next couple of months. More news as it becomes available.

OVERSEAS SUBSCRIPTION

Please could you tell me if it is possible to subscribe to your magazine from over here and what it would cost. Otherwise I will be forced to buy the magazine over here at a much higher price, of course. Furthermore, I would be grateful if you would send me an ACE card. I herewith state that I have not got one.

Susanne Bolus,
Mannheim

Yes, you certainly can subscribe. Send your details and £27.50, either as a cheque in sterling or International Money Order made out to Future Publishing, to Carrie-Ann Porter, The Old Barn, Somerton, Somerset, TA11 7PY, England.

CAVEAT VENDOR

PRIZE LETTER

Just today (23rd April) I received a phone call from a person 'wanting' to buy my computer which was advertised in issue 8.

Well, this person asked me what games I had for the computer, but in the excitement I forgot, and could only answer with *GAC*.

Now I realise I might have been asking too much for the set-up, and for this reason the guy who phoned me thought he might play the funny guy by poking a slag at me.

When I answered with 'GAC' he said 'Er...f*** off'. I sat there, dumbfounded. My hopes were really raised, and then this 'person' goes and tells me to do something nigh on impossible! Well, it was disappointment at its peak, so I went upstairs for a game of *Flyspy* to cool down and forget.

The phone rang again about five minutes later. 'Oh, not again' I thought. I walked downstairs, less excited this time, and was prepared to tell *him* where to get off this time.

It turned out to be a genuine buyer this time. He had an almost apologetic sort of voice, but he really wanted to buy the machine, even if it way by itself and nothing else. I was glad to know there were some friendly people out there.

Jonathan McBrien
Enniskillen

Well, I'm not sure what I would reply if someone said 'GAC' to me on the phone. But it sounds like the Pink Pages did the trick in the end. and to make up for that unpleasant phone call, we're awarding you software as a Prize Letter winner.

ACE PINK PAGES

Want to know the best games to run on your micro? Thinking of upgrading to a bigger machine? Look no further – all the information you need is in the ACE Pink Pages. You'll also find our regular Reader to Reader section, plus this month's brain-teasers in the Random Access pages.

ACE RECOMMENDED SOFTWARE

ARCADE ADVENTURES

These games usually give the player a joystick controlled character with which to explore the huge game area.

AIRBALL

Microdeal ● Atari ST £24.95dk

Multi-coloured three-dimensional arcade adventure that owes something to the Ultimate style but is years ahead in terms of graphic detail and presentation. You, as the airball in question, must negotiate corridors and rooms full of various obstacles – all spelling instant death. An outstanding rendition of a popular genre.

DUNGEON MASTER

Mirrorsoft ● Atari ST £24.99dk

A fascinating arcade adventure cum role-playing game that gives you four characters to guide through a series of dungeons on a quest to find the Firestaff. Superb graphics help to create an enthralling game that will keep you playing for a long time to come.

EAGLE'S NEST

Pandora ● Amiga £19.95dk ● Atari ST £19.95dk

This is one of the better *Gauntlet* clones, especially on the 16-bit machines. The military flavour of the arcade adventure adds atmosphere and if you like this particular style of game, you won't be disappointed with *Eagle's Nest*.

HEAD OVER HEELS

Ocean ● Spectrum £7.95cs ● C64 £8.95cs £12.95dk● Amstrad £8.95cs £14.95dk ● MSX £8.95cs ● IBM PC £19.95dk

3D exploration reaches its peak with this huge intricate masterpiece. You play two characters – Head and Heels – as you search for the crowns that will free the galaxy. The puzzles can get very difficult indeed, and you'll often have to split Head and Heels up to use their different capabilities. The game's 300 locations are wittily drawn, and the animation is excellent throughout. A real classic.

MAGIC KNIGHT TRILOGY

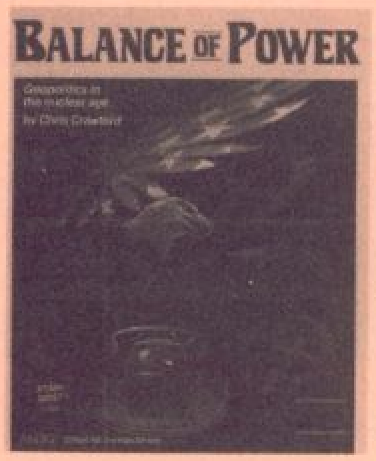
Mastertronic ● *Knight tyme* ● Spectrum £2.99cs ● Amstrad £2.99cs ● C64 £2.99cs ● *Spellbound* ● Spectrum £2.99cs ● Amstrad £2.99cs ● C64 £2.99cs ● *Stormbringer* ● Spectrum £2.99cs ● Amstrad £2.99cs

This trilogy is a series of menu-driven arcade adventures which, as well as all the expected running and jumping, have a complex system of interaction between characters. In *Spellbound* you must rescue Gimbal the Wizard from the fearsome Castle of Karn; in *Knight Tyme* you have to find a way back in time after being catapulted into the 25th century, while in *Stormbringer*, the final part, we find that the magic knight has been split in two, one part good, the other evil. You can't kill yourself, so the only solution is to merge the two halves. But how? Lots of action, plenty of thought and good graphics make all three winners.

ATARI ST
Airball
microdeal
ELECTRONIC PUBLISHING

STRATEGY GAMES

The games for megalomaniacs. The games listed in this section will really test your mettle on the battlefield.



BALANCE OF POWER

Mindscape/Mirrorsoft ● Amiga £26.95dk ● Atari ST £26.95dk ● IBM PC £26.95dk ● Mac £26.95dk

Definitive strategy game for 16-bitters. The player takes the role of one of the superpowers, while either the computer or a friend takes the other. Then it's a case of trying to win friends and influence people on a global scale. This can be achieved in a number of ways, including supplying arms or financial aid to radical factions in the hope of toppling a government which is not receptive to the great American or Russian dream (depending on which side you're playing). It's complex, involving and it's difficult to play in ten minute sessions. Absorbing stuff that gives an insight into the devious world of geopolitics.

CARRIER COMMAND

Rainbird ● Atari ST £24.95dk ● Amiga £24.95dk ● Amstrad £14.95cs £19.95dk ● Spectrum £14.95cs £15.95dk

A magnificent strategy game spiced with some great arcade action – As commander of the aircraft carrier Epsilon, it's your job to stop the invasion of an island archipelago by the rogue aircraft carrier Omega. State of the art graphics mix tremendously with great gameplay to make an enthralling and entertaining game.

DIPLOMACY

Leisure Genius ● C64 £12.95cs £14.95dk ● PC £24.95dk

The grand old man of nasty negotiation boardgames finally made it onto home computer and how! The game can handle up to seven players and it's an engrossing and madly addictive game that's a must for micro megalomaniacs.

UMS

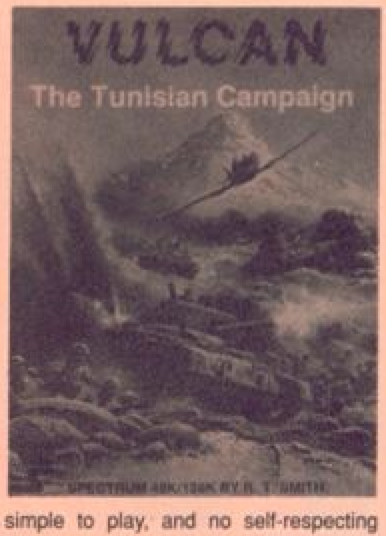
Rainbird ● Atari ST £24.95dk ● IBM PC £24.95dk ● Macintosh £34.95dk ● Amiga £24.95dk

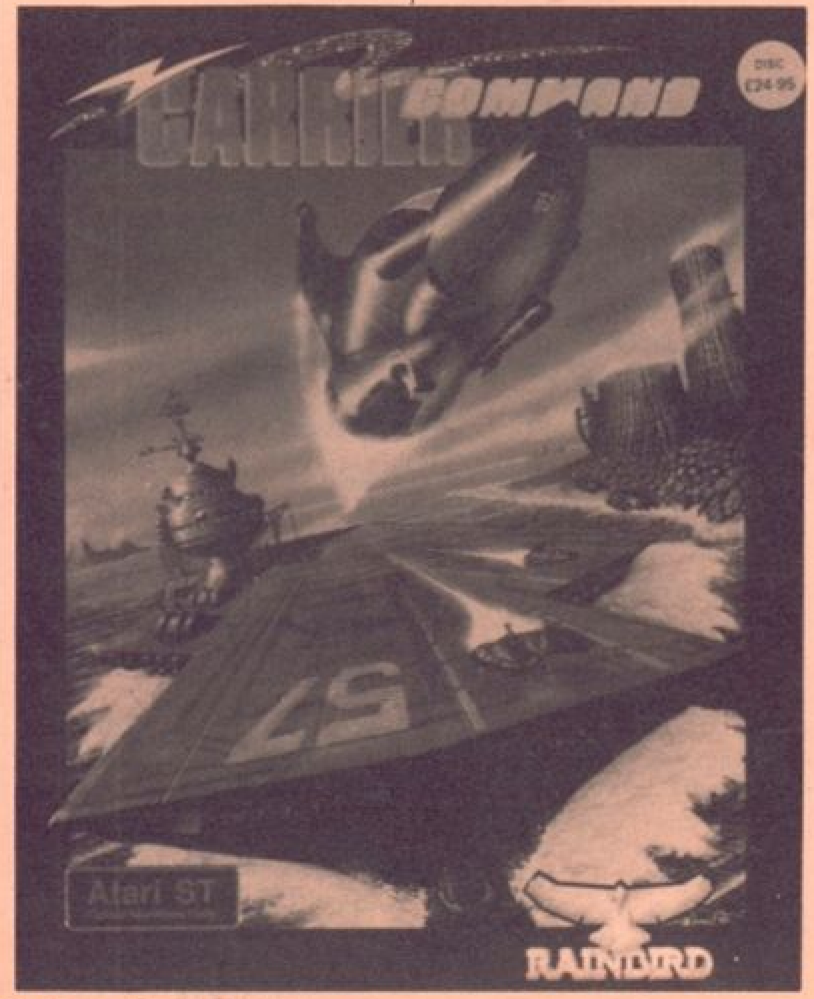
Rainbird's *Universal Military Simulator* is designed to simulate a conflict between two forces on a user-definable terrain that can be viewed in three dimensions from any one of eight directions. The program heralds a new era in 16-bit computer wargaming. The ST version is available now with the other versions following shortly.

VULCAN

CCS ● Spectrum £9.95cs ● Amstrad £9.95cs

An elegant, simple and ingenious wargame, *Vulcan* covers the Tunisian campaign of 1942-43. A huge playing area and air attack phase make the game an improvement over the same author's earlier works *Arnhem* and *Desert Rats*. *Vulcan* is fast, efficient and simple to play, and no self-respecting wargamer should be without it.





SIMULATIONS

Games that put you at the controls. Whether you're flying helicopters,or aeroplanes, or steering bobsleighs, simulation games can become very involving.

BOBSLEIGH

Digital Intergration ● Spectrum £9.95cs ● Amstrad £9.95cs £14.95dk

Bobsleigh is a thrilling game with enough strategy involved to add another dimension to a highly competent and addictive simulation. Have you got the stamina to win your way into one of the top three positions by the end of the season? Remember, sponsors don't back losers. Unfortunately, though *Bobsleigh* is available for the C64, it's a poor game compared to the Amstrad and Spectrum versions and is therefore not recommended.

CHUCK YEAGER'S ADVANCED FLIGHT TRAINER

Electronic Arts ● C64 £9.95cs £16.95dk ● PC £24.95dk

Chuck Yeager's flight trainer takes the flight simulator genre a step further by including a training option. Chuck will guide the novice through such difficult moves as aileron loops and rolls. With so much in one package it will take many hours of instructive fun to master all the avilable options.

FALCON

Mirrorsoft ● Apple Mac £34.99dk ● IBM PC £34.99dk

A magnificent flight sim that gives you a dozen missions at any of five ranks, so there's an awful lot to get through.The game's very combat-orientated making it definitely one for fighters rather than just fliers. After a short while of playing it's easy to see why *Falcon* scooped a whole bunch of awards in America recently.

FLIGHT SIMULATOR 2

Sub-Logic ● Atari ST £49.95dk ● Amiga £49.95dk ● IBM PC £49.95dk

The venerable godfather of flight simulations, *Flight Sim II* is the standard by which all others are judged. Although it spent a zillion weeks on top of the US charts, it's difficult to get hold of in the UK. If you have the technology, this is an essential purchase.

GUNSHIP

Microprose ● PC £34.95dk

Excellent graphics, involving simulation and a variety of missions make this one of the better PC games. Piloting your 'copter around in order to zap various gooks may not be terribly tasteful – but if you can stand the politics you should have a lot of fun.

INTERCEPTOR

Electronic Arts ● Amiga £24.95dk

F-18 simulation combining stunning solid 3-D graphics with atmospheric sound and an interesting variety of missions – see the main review on p 44.

LEADERBOARD

Access/US Gold ● Spectrum £8.99 ● C64 £9.99cs £14.99dk ● Amstrad £9.99cs £14.99dk ● Atari ST £19.99dk

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TOMAHAWK

Digital Integration ● Spectrum £9.95cs ● Amstrad £9.95cs £14.95dk ● Atari ST £24.95dk

One of the all-time great flight simulators, *Tomahawk* also has a strong combat edge to it. Flying a US Army Apache helicopter is a complex business, and the game's realistic controls make no concessions for learner pilots. Choose one of the three combat missions and you can fly out to attack ground targets, while keeping a weather eye open for enemy aircraft. Landscape, buildings and vehicles are all drawn in crisp vector graphics.

PUZZLES

If you're after a game that will provide you with a real challenge, without necessarily requiring large doses of strategic thinking, then it's a puzzle game you want.

BONECRUNCHER

Superior Software ● C64 £9.95cs £11.95dk ● Amiga £14.95dk

At first sight this recent release may appear to be nothing more than a *Boulderdash* rip-off. However there are a number of highly innovative gameplay features which give *Bonecruncher* a feel all of its own. Highly recommended for those who prefer to solve problems rather than shoot them.

BOULDERDASH

Prism Leisure Corporation ● Spectrum £2.99cs ● C64 £2.99cs ● Amstrad £2.99cs

A game that has everything – instant addiction, long-term challenge, frenetic excitement as the clock ticks down and extremely tricky puzzles. You must collect jewels hidden in caverns, digging away earth and boulders to get at them. Boulders can drop and cause you serious damage, while the jewels are often hidden by seemingly impenetrable walls. Complex, but great fun. *Boulderdash* is a classic you can't afford to miss in its budget incarnation.

DEFLEKTOR

Gremlin/Vortex ● Spectrum £7.99cs ● C64 £9.99cs 14.99dk ● Atari ST £19.99dk

Optics are the order of the day here (not the spirit dispensers) as the player tries to connect a laser beam to a receiver and at the same time destroy a number of cells that are on-screen as well. You'll need to make full use of the mirrors, fibre-optic conduits and polarising and refracting blocks if you're to achieve your aim. Clear the first screen and you'll only have 59 more to do. Fascinating stuff that's horribly addictive.

NEBULUS

Hewson ● C64 £8.95cs £12.95dk ● Spectrum £7.95cs

Guide pogo to the top of eight towers using the spiral of platforms, lifts and ledges that form the route. It's a highly original game game that strikes a fine balance between frustration and addiction, added to which is the rotary scroll, thus making it a good looking, playable winner of a game.

SENTINEL

Firebird ● Spectrum £9.95cs ● C64 £9.95cs £14.95dk ● Amstrad £9.95cs £14.95dk ● Atari ST £19.95dk ● Amiga £19.99dk

Bizarre and compelling strategy game played over the chequered surface of a planet dominated by the Sentinel. Fundamentally you have to absorb energy while trying to stop the Sentinel from absorbing yours. A clear brain and fast trigger finger are both necessary in this very original and large – 10,000 possible landscapes – game.

SKULLDIGGERY

Nexus ● Atari ST £19.95

Boulderdash clone that completely outdoes the original on this particular machine. Again (see *Boulderdash*, above) you're digging for diamonds in caverns over 100 different screens – with a time limit for each screen. *Skulldiggery* scores on playability (easier screens to begin with and a choice of starting point) and its entertaining two-player option.

SPORE

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A fascinating geometrical oddity, this Russian puzzler turns the obscure mathematical topic of packing into a cult game. One at a time, shapes fall downwards into a rectangular playing area. Left to their own devices they'll pile up until they reach the top of the screen: your task is to guide them down and pack them in tightly so that doesn't happen. Different versions have proved to be rather variable in their arcade aspects, but the brilliantly simple idea behind them means they're well worth a look whatever your machine.

THINK!

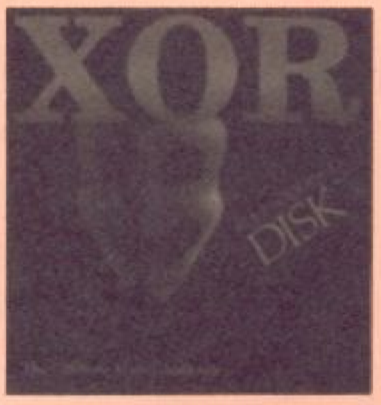
Firebird ● Spectrum £1.99cs ● C64 £1.99cs ● Amstrad £1.99cs

Originally released by Ariolasoft at full price, but now available for a fraction of that from Firebird. It's a horribly addictive game played on a 6x6 grid – either one or two player – in which you attempt to connect four counters, horizontally, vertically or diagonally. A compelling puzzle which incorporates many additional features and skill levels.

XOR

Logotron ● Spectrum £7.95cs ● Amstrad £9.95cs £14.95dk ● BBC £9.95cs £12.95dk

Extremely tricky maze game involving the player controlling two shields, and collecting masks through 15 mazes, which increase in complexity as you progress. Also in later stages, fish and chickens lie in wait, often blocking the masks and just waiting to fall on you and bring your quest to a premature end. Later still, the fish and chickens are the least of your worries as bombs, transporters and dolls crop up to conspire against you. Smooth scrolling, simple graphics, this one requires planning to complete successfully.



BRAIN GAMES

Fed up with mindless blasting? Want a game that offers you an opponent who's worthy of your skills? This is your section.

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INFOGRAMES' BRIDGE

Infogrames ● Amstrad £12.95cs £15.95dk ● MSX £12.95cs

Graphically the best of all contract bridge simulations, with large playing cards depicted against a suitably green baize background. Plays a good game (for a computer, which after all is a bit short in the imagination and flair department), and features a wide range of options and bidding conventions which you can toggle on and off according to your style.

POWERPLAY

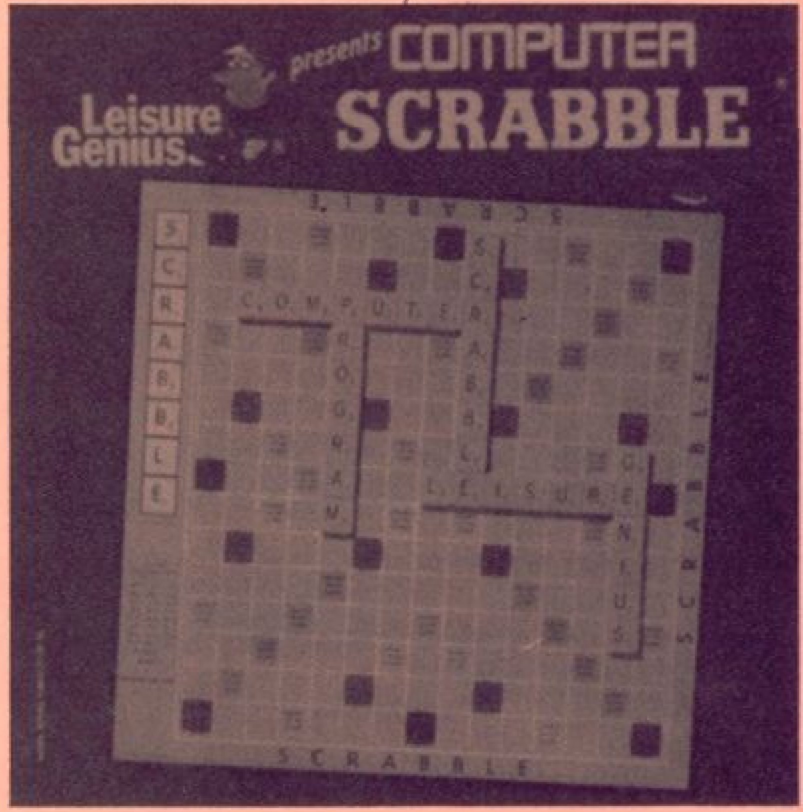
Arcana ● Amstrad £8.95cs £14.95dk ● C64 £8.95cs £14.95dk ● Amiga £19.95dk ● Atari ST £19.95dk

If you want to try out your general knowledge, we reckon you'd be better off with this original and challenging combination of strategy game and quiz than with the admittedly monster-selling *Trivial Pursuit*. *Powerplay* is graphically very pretty in its setting on Mount Olympus, home of the Gods.

SCRABBLE

Leisure Genius ● Spectrum £9.95cs ● C64 £12.95cs £14.95dk ● Amstrad £9.95cs £14.95dk ● IBM PC £24.95dk

The hugely popular word game translated very successfully onto the micro. Fast, excellent display, and a surprisingly large vocabulary (even if it does include some strange looking words on occasions). Good enough to give even strong human opponents a tough game at the higher levels.



ARCADE-STYLE

Including coin-op conversions. Games with a high fun factor and plenty of addictiveness feature here.

ARKANOID

Imagine ● Spectrum £7.95cs ● C64 £8.95cs £12.95dk ● Amstrad £8.95cs £14.95dk ● Atari XL/XE £8.95cs ● Atari ST £14.95dk ● MSX £8.95cs ● IBM PC £19.95dk

Conversion from *Arkanoid* the coin-op, in its turn the best version of the classic *Breakout*. Simple in concept: the player controls a bat at the base of the screen, whizzing it left and right. The object is to keep a small ball in play, bouncing it off the bat to destroy formations of bricks in the top half of the screen. Eliminate all the bricks and move on to the next of 33 screens. Clever extra features contribute to the addictiveness. As a faithful coin-op conversion, *Arkanoid* comes out top, but for a different slant on the same theme and some nifty music, try ASL's *Impact*, which also builds up the difficulty levels more gradually.

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Gremlin Graphics ● Spectrum £7.95cs ● C64 £9.95cs £12.95dk ● Amstrad £8.95cs £13.95dk ●

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addictive too. You guide a ball as it bounces from one platform to another, high above the vertically scrolling landscape. Land on marked squares and you can stay aloft longer or gain a mystery bonus. Fill in a gap or hit one of the game's many nasties, however, and you'll lose a life. Bonus bouncing sections at the end of each level help vary the pace, and those tough gaps really keep you coming back for more. Bright, witty graphics, great music – and it's so playable.

BUBBLE BOBBLE

Firebird ● Spectrum £7.95cs ● C64 £8.95cs £12.95dk ● Amstrad £8.95cs £14.95dk ● Atari ST £19.95dk

Playability is the essence of this two-player coin-op conversion. You and a friend play bubble-blowing dinosaurs, travelling through 100 maze-and-platform screens, fighting off the 'bullies' by encapsulating them in your bubbles to turn them into juicy fruit. More firepower and various bonuses await as you reach the more difficult later screens. Enormously good fun, if a little on the cutesy side. Can also be played as one player against the computer.

BUGGY BOY

Elite ● C64 £9.95cs £14.95dk ● Amstrad £8.99cs £14.95dk

A non-stop action driving game that will keep even the most ardent *Out Run* fans busy for a long while. Collect the time bonuses in the attempt to complete the five gruelling courses. Instantly playable and highly addictive, *Buggy Boy* should be on any racing fan's shopping list

CONQUEROR

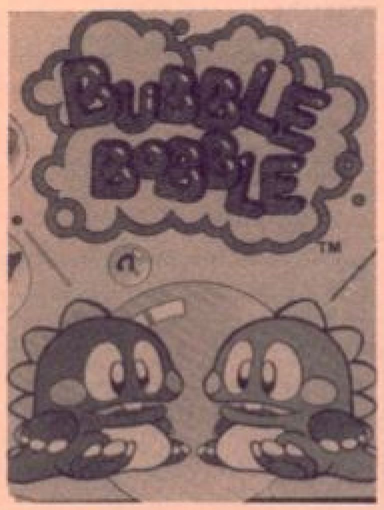
Superior ● Archimedes £24.95dk (Amiga and ST versions under developement)

Drive around in your very own tank! Blast the enemy in close combat and plan your strategy for the campaign. This is a tricky game to get to grips with, but if you persevere you'll find you soon become mesmerised by the thing. If you ain't got a 1Mb Archie though – forget it!

COSMIC CAUSEWAY

Gremlin ● £9.99cs £14.99dk

The follow-up to the very popular bouncing ball game *Trailblazer.* The 24 stages of the scrolling landscape race toward you at breakneck speed as you try to guide your ball through the mulitude of obstacles. Less technically demanding than *Trailblazer* but much more fun and with tremendous variety.



EXOLON

Hewson ● Spectrum £7.95cs ● C64 £8.95cs £12.95dk ● Amstrad £8.95cs £14.95dk

Graphically superb horizontally scrolling shoot-em-up in which you run, duck and jump your way along a planet's surface blasting away at alien defences. A gun and a missile launcher are used to blast the foes, but if things are still too tough then you can grab an exoskeleton for extra protection and fire power.

HIGHWAY ENCOUNTER

Vortex (available on *The Best of 3D* compilation from US Gold) ● Spectrum £8.99cs ● Amstrad £8.99cs

Each game in this compilation is an excellent example of Vortex's 3D animation and tough gameplay, but *Highway*

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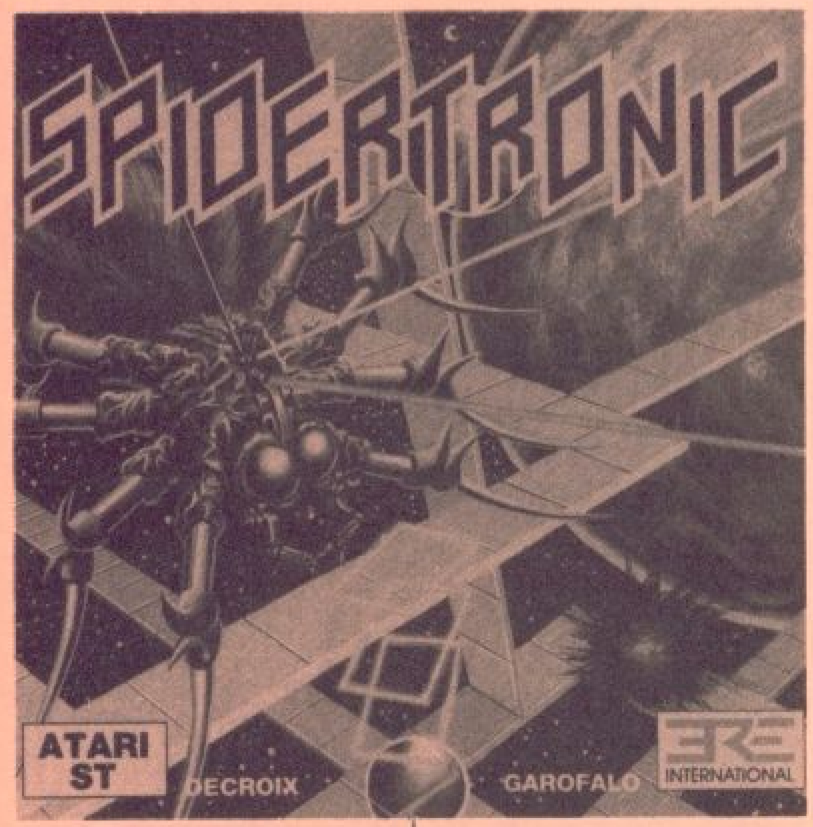

Encounter stands out in both departments, as you plot your route along said highway fighting off threats from a mutant tribe of dustbins.

OIDS

Mirrorsoft ● Atari ST £19.99dk

A magnificent *Thrust*-ish blast. The Oids are relying on you to save them, but the Biocretes aren't going to let them go without throwing missiles, rockets and a number of other weapons at you. Included with the program is an edit facility that allows you to design your own planetoids – great stuff!

PITSTOP 2

Epyx/US Gold ● Available only on Epyx Epics compilation ● C64 £9.95cs £14.95dk ● IBM PC £29.95dk (in compilation with *Winter Games* and *Summer Games 2*)

Thrilling racing game where the screen is split into two and you can race the computer or a friend. Lots of different Grand Prix circuits, tyre blow-outs and of course the all-important pitstops guarantee to give you hand cramp and your brain a real racing treat.

SPIDERTRONIC

Ere International ● Atari ST £19.95dk

Guide your spider-like character around the game area, collecting coloured panels in the correct order. The built in construction set means you'll be knocking out your own levels till the cows come home.

SUMMER GAMES

Epyx/US Gold ● C64 £9.95 cs £14.95dk ● IBM PC £29.95dk

Epyx sporting simulations are of high quality but none have quite captured the playability and style of the original *Summer Games* and its immediate successor, *Summer Games 2*. One to six players can take part in high jump, gymnastics, springboard diving, clay pigeon shooting, swimming, pole vault – and others – with lovely large graphics and smooth animation throughout. Control of your athlete can be complex so practice is recommended.

EPYX
SUMMER GAMES

SUPER SPRINT

Electric dreams ● C64 £9.99cs £14.99dk Amstrad £9.99cs Spectrum £9.99cs ● Atari ST £19.99dk

One of the better coin-op conversions currently available. With up to three players

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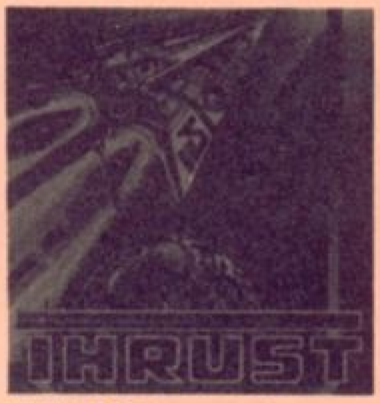
all competing at once, the action is fast and furious and it will take a finely-tuned car to complete some of the more tortuous circuits that appear later in the game.



THRUST

Firebird ● Spectrum £1.99cs ● C64 £1.99cs ● Amstrad £1.99cs

Terrifyingly sensitive controls and a large helping of real-life physics make this budget title an absolute must. Flying down through the caverns of an enemy-held planet, you have to pick up fuel and destroy hostile gun turrets without crashing into the tunnel walls. Tough enough as it is, but then you've got to make the return journey with a heavy load slung under your craft. Very mean, very addictive.

THUNDERCATS

Elite ● C64 £9.95cs £14.95dk ● Spectrum £7.95cs ● Amstrad £8.95cs £14.95dk

The game based on the hit TV series/comic/plastic toy. It's a side-on view scroller that just oozes gameplay. Each of the game's 14 levels is a straight line dash from start to finish with a multitude of obstacles to avoid along the way. Graphically impressive and compulsively playable too.

URIDIUM

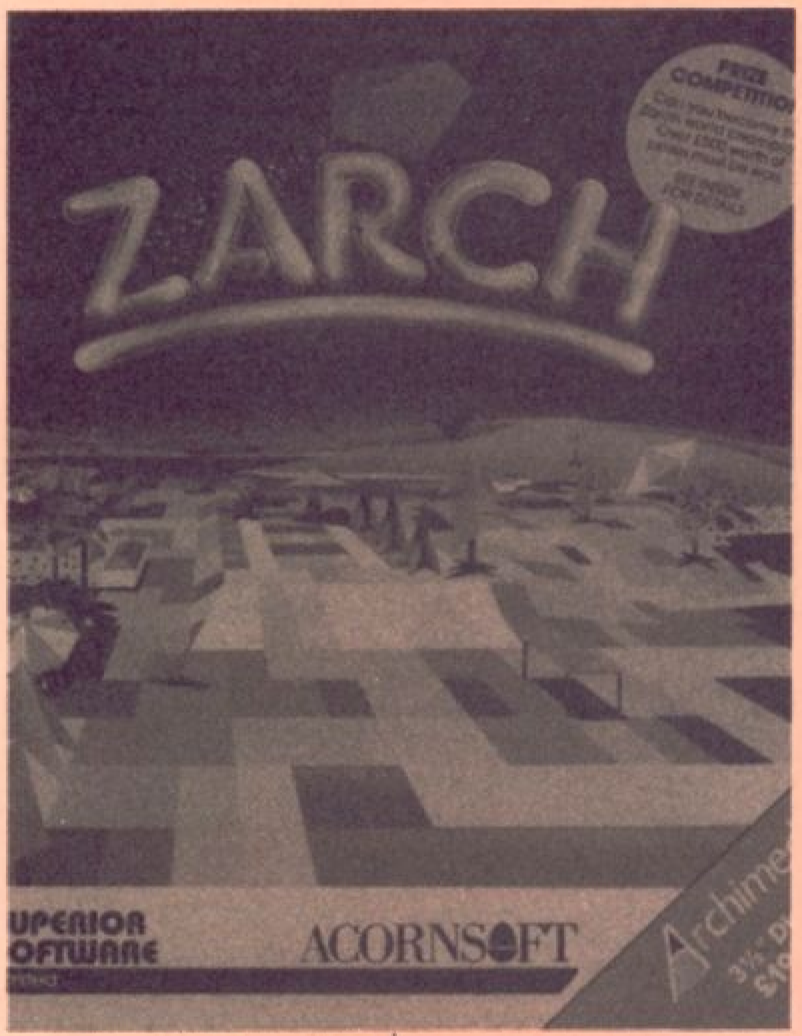
Hewson ● Spectrum £8.95cs ● C64 £9.95cs £12.95dk ● BBC £9.95cs £14.95dk

The piece de resistance of scrolling shoot-em-ups: blast the dreadnought and attacking ships while dodging around any large structures. Great metallic-looking dreadnoughts and the smoothest scrolling you'll ever see put this head and shoulders above the opposition. A game not to be missed, especially now that C64 versions come packaged with the excellent *Paradroid*.

ZARCH

Superior Software ● Archimedes £19.95dk ● Amiga and Atari ST versions under development.

ACE'S highest rated game to date. A solid three dimentional shoot-em-up with such graphic perfection and timelessly addictive gameplay that it became an instant classic. *Zarch* could do for the Archimedes what 'the juggler' did for the Amiga.



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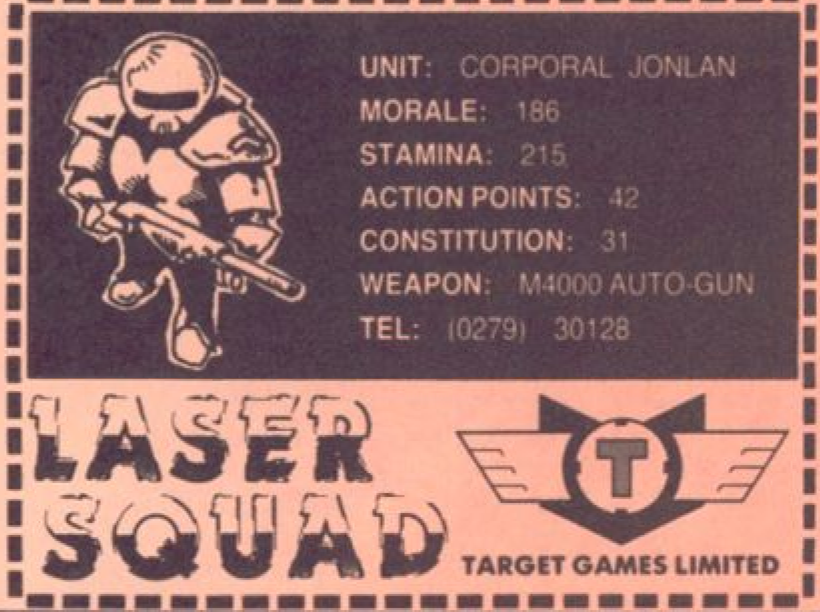

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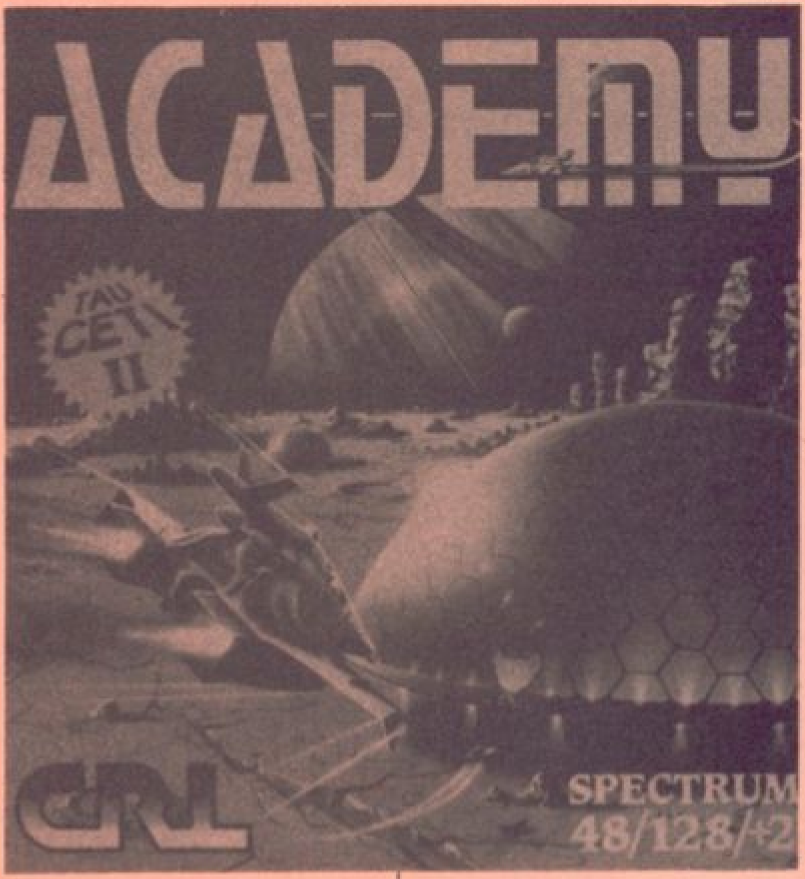


ATF

Digital Integration ● C64 £8.95cs £12.95dk ● Spectrum £8.95cs £12.95dk ● Amstrad £8.95cs £13.95dk

Excellent combat/flight simulator that's a bit of a change for Digital Integtration, the simulation specialists. The emphasis is on solid action, the result being a sure-fire hit.

DRILLER

Incentive ● C64 £14.95cs £17.95dk ● Spectrum £14.95cs £17.95 dk ● Amstrad £14.95cs £17.95dk ● IBM PC £19.95dk

This three-dimensional masterpiece of exploration and adventure took a year to develop, but the wait was worth it. A whole world was crammed into 8-bit micros to give the player such a feeling of 'being there' it's uncanny. It's bold, dazzlingly original and very playable. A milestone in computer entertainment.

ELITE

Firebird ● Spectrum £14.95cs ● C64 £14.95cs £17.95dk ● Amstrad £12.95cs £14.95dk ● BBC £12.95cs £14.95dk (available from Superior Software)

Still the best space trading game, *Elite* set a standard for other companies to follow. One of the first space games to use vector graphics, it's a shooting and trading effort set across several galaxies, with plenty of variety to the gameplay. You can trade legal goods in (relatively) safe systems, or run the gauntlet of pirates in the galaxies' danger spots with your hold full of contraband. Either way there's a nice line in zero-G dogfighting, and as big a task as you'll find anywhere.

MAGNETRON

Firebird ● Spectrum £7.95cs ● C64 £8.95cs £12.95dk

Puzzles and action Steve Turner style. Save the world by dismantling eight satellites. Steal parts from the enemy droids to upgrade your own droid, and hopefully make your job a little easier. The ideal game for all *Quazatron* fans looking for a similar, new challenge.

MATCH DAY 2

Ocean ● Spectrum £7.95cs £14.95dk● C64 £8.95cs £12.95dk ● Amstrad £8.95cs £14.95dk

Definitely *the* football game on micros; magnificent animation, great gameplay, vicious and skilful computer opponents. Various improvents over the original make this a must for all computer football fans.

QUEDEX

Thalamus ● C64 £9.99cs £14.99dk

In this impressively challenging game you must steer a metallic ball through ten different screens of mazes, bonuses and obstacles, all within a set time limit. This simple game concept has a host of added features to make it particularly pleasing: you can carry over unused time to the next screen, for example, and tackle the different screens or 'planes' in any order you wish. Excellent graphics and utterly absorbing play.

SPINDIZZY

Electric Dreams ● Spectrum £9.99cs ● C64 £9.99cs £14.99dk ● Amstrad

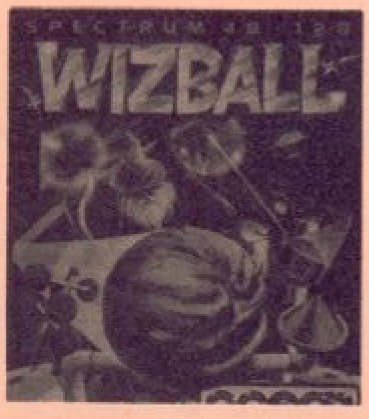
£9.99cs £14.99dk

Tremendous stuff; steer your spinning top over tough obstacles and collect jewels, against a fiendish time limit. The game landscape is a vast system of catwalks, ramps, towers, and trampolines surrounded by lethal drops – and NO safety rails. Floor switches activate lifts and bridge gaps, but tripping them in the right order can be harder than it looks. A few bad guys and a lot of nice touches, but the exploration's the thing.

TAU CETI/ ACADEMY

CRL ● Spectrum £9.95cs ● C64 £9.95cs £14.95dk ● Amstrad £9.95cs £14.95dk ● Atari ST £19.95dk ● Amiga £19.95dk

Flight simulator/shoot-em-up and its sequel which are both incredibly smooth and well put together. The attention to detail is impeccable as you set off on hair-raising missions as a space cadet. In *Academy* you get to design your own space skimmer craft as well.



WIZBALL

Ocean ● Spectrum £7.95cs ● Amstrad £8.95cs £12.95dk ● C64 £8.95cs £14.95dk

A compelling and original ball game in which you become the wizball and must set out to conquer the 'colour creatures' which are intent on eliminating the spectrum and rendering the landscape grey and drab. Controlling the wizball is great fun and makes this one of the most playable games to have appeared for a long time.

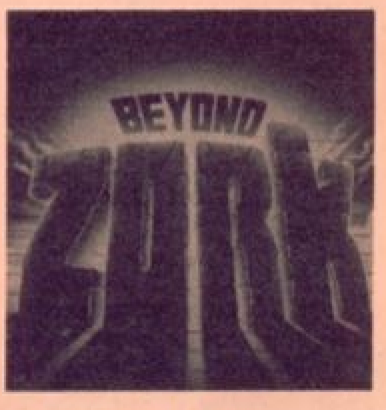
ADVENTURES

Adventure games require text input from the player and give a text response in return. There are many sub-categories, involving icon-control, graphic depiction of locations, and even speech output.

THE BARD'S TALE

Electronic Arts ● C64 £14.95dk ● Amiga £24.95dk ● Atari ST £24.95dk ● IBM PC £24.95dk

Build a party of up to six adventurers and sally forth through the city in search of treasure, combat, and fame. Your character develops in experience during play and the task involved is pretty immense – don't expect to finish it inside a month or two.



BEYOND ZORK

Infocom/Activision ● C64 £19.99dk ● Amiga £24.99dk ● IBM PC £24.99dk ● Atari ST £24.99dk

Infocom's attempt to muscle in on the role-playing market is a great success. Locate the fabulous Coconut of Quendor in a game that combines the wit and ingenuity of one of the world's most original software companies with state-of-the-art parsing and gameplay. Text-only, but with an on-screen mapping facility.

GUILD OF THIEVES

Rainbird/Magnetic Scrolls ● C64 £19.95dk ● Spectrum £15.95dk ● Amstrad 6128 £19.95dk ● Amiga £24.95dk ● IBM PC £24.95dk ● Atari ST £24.95dk ● Macintosh £24.95dk

Britain's newest adventure software house produces a classic, traditional treasure hunt with state-of-the-art graphics and some very tricky puzzles. Powerful parser helps create a convincing game-world with humour and imagination.

JEWELS OF DARKNESS

Rainbird/Level 9 ● C64 £14.95cs ● Spectrum 128 £14.95cs ● Amstrad £14.95cs £19.95dk ● IBM PC £19.95dk ● Amiga £19.95dk ● Atari ST £19.95dk ● Macintosh £19.95dk

Level 9, Britain's oldest adventure programming family, have put together three of their classic releases, *Colossal Adventure*, *Dungeon Adventure*, and *Adventure Quest* on one disk. The games have been uprated with graphics and larger vocabularies and are as close to the original spirit of adventuring as you're likely to find.

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MEGASAVE FANTASTIC SAVINGS

Title	Spect	+3	AMS	Disc	Comm	Disc
Alien Syndrome	5.95	D1	6.45	–	6.45	–
Air Rally (GeeBee)	4.95	–	6.45	9.95	6.45	9.95
Arcade Force Four	6.45	–	6.45	12.95	6.45	9.95
Ad. Tact. Fighter	5.95	D2	6.45	9.95	5.95	8.75
Arkanoid II	4.95	D1	6.25	9.95	6.25	8.75
Action Force II	5.95	D2	–	–	–	–
Bionic Commandos	5.95	–	6.45	9.95	6.45	7.95
Blood Brothers	4.95	D1	6.45	9.95	6.45	9.95
BlackLamp	4.95	D1	6.45	9.95	6.45	8.95
Buggy Boy	4.99	–	6.45	9.95	6.45	9.95
Boot Camp 19	5.95	–	–	–	6.45	9.95
Bard's Tale	6.25	–	–	–	7.25	10.95
Bob Winner	–	–	6.45	9.95	6.45	9.95
Behond the Ice Palace	4.95	D1	6.45	9.95	6.45	7.95
Crosswize	4.95	D1	–	–	–	–
Combat School	4.95	D2	6.45	9.95	5.95	8.75
Cybernoid	4.95	D2	6.45	9.95	6.45	9.95
Corporation	6.45	–	6.45	9.95	6.45	9.95
Crazy Cars	5.95	D2	–	–	–	–
Champions	6.45	–	6.45	9.95	6.45	9.95
Dark side	6.45	D2	6.45	9.95	6.45	8.75
Desolater	4.95	D1	6.45	9.95	6.45	9.95
Dream Warrior	5.95	–	6.45	9.95	6.45	7.95
Earthlight	4.95	D1	–	–	–	–
Footb. Manager II	6.45	–	6.45	9.95	6.45	9.95
Footb. Director	5.95	–	5.95	–	5.95	–
Footb. Dir II 128	13.95	D1	–	–	–	–
Flying Shark	4.95	D1	–	–	5.95	8.75
Firefly	4.95	D1	6.45	8.95	5.95	8.75
Flintstones	5.95	–	6.25	8.95	5.95	9.95
G. Lineker's Soccer	4.95	D1	6.45	9.95	6.45	8.75
Game Set & Match	9.95	D3	9.95	13.95	9.95	13.95
Garfield	5.95	–	6.45	9.95	5.95	9.95
Gutz	4.95	–	–	–	6.25	–
Gothik	4.95	–	6.25	9.95	6.45	8.75
Hercules Slayer	4.95	D1	6.45	9.95	6.45	9.95
Imposs. Mission II	5.95	–	6.45	9.95	6.45	9.95
Ikari Warriors	5.95	D1	7.50	7.95	6.45	9.95
Jinxter	–	D2	–	–	–	12.75
Kernov	6.45	–	6.45	9.95	6.45	9.95
Konamis 10 Hits	6.95	D3	6.95	–	6.95	–
Last Ninja II	7.95	–	7.95	9.95	7.95	9.95
Magnificent 7	6.95	D3	6.45	13.95	6.45	13.95
Matchday II	4.95	–	6.25	–	5.95	8.75
Mickey Mouse	4.95	D2	–	–	–	–
Now Games Five	6.45	–	–	–	6.45	–
Outrun	5.95	D2	6.45	9.95	6.45	9.95
Overload	6.95	–	–	–	–	–
Operation Wolf	6.45	–	–	–	–	–
PHM Pegasus	6.95	D3	7.25	10.95	6.95	10.95
Power At Sea	–	–	–	–	6.45	10.95
Platoon	6.45	D2	6.45	9.95	6.45	9.95
Pac-Land	5.95	–	6.25	–	6.45	9.95
Pink Panther	5.95	D1	6.45	9.95	6.45	8.75
Pandora	–	–	–	–	6.45	8.75
Psycho Pig UBX	5.95	–	–	–	–	–
Roy of the Rovers	6.45	–	6.45	9.95	6.45	9.95
Rastan	4.95	D2	6.25	9.95	5.95	8.75
Ring Wars	6.45	D2	6.45	9.95	6.45	9.95
Road Blaster	5.95	D1	6.45	9.95	6.45	9.95
Sidearms	5.95	D1	6.45	9.95	6.45	7.95
Super Hang-on	6.45	–	6.45	9.95	6.45	8.75
Shackled	5.95	D1	6.45	9.95	6.45	7.95

Title	Spect	+3	AMS	Disc	Comm	Disc
Sinbad Falcon	–	–	–	–	–	9.95
Strike Fleet	–	–	–	–	–	10.95
Soldier Of Light	4.95	D1	5.95	9.95	5.95	9.95
Stake Crazy	4.95	D1	6.45	9.95	6.45	9.95
Street Fighter	5.94	–	–	–	–	–
Sophistry	5.95	–	–	–	–	–
Testdrive	–	–	–	–	6.45	10.95
Time and Magic	10.95	D3	10.95	13.95	10.95	13.95
The Double	7.95	–	–	–	7.95	–
Target Renegade	4.95	D2	6.25	–	6.25	–
Track Suit Manager	6.45	–	–	–	6.45	–
Teladon	5.95	–	–	–	5.95	8.75
The Games (Winter)	6.25	D1	6.45	9.95	6.45	9.95
Tree Stooges	–	–	–	–	–	9.95
Vampire's Empire	5.95	D1	6.45	9.95	6.45	8.75
Vixen	5.95	D2	6.45	9.95	6.45	8.75
Vinicator	4.95	–	5.95	9.95	5.95	8.75
Virus	4.95	–	6.45	–	6.25	–
10 Great Games II	6.95	D1	6.95	9.95	6.95	9.95
4 Hits (Hewson)	5.95	D2	6.45	9.95	6.45	9.95
720	5.95	–	6.45	9.95	6.45	7.95
6 Pac Vol 2 or 3	6.45	D1	6.45	9.95	6.45	9.95
Amiga & Atari ST				**Amiga**		**Atari ST**
Arcade Force Four				–		14.95
Air Rally (GeeBee)				11.95		–
Arkaniods II				–		11.95
Alien Syndrome				11.95		11.95
Battle Ships				11.95		9.75
Bards Tale				16.95		16.95
BMX				9.95		9.95
Bionoc Commandos				14.95		11.95
Carrior Command				14.95		14.95
Crazy Cars				11.95		14.95
Captain Blood				14.95		11.95
Dungeon Master				–		14.95
Desolator				–		11.95
Enlightenment				11.95		–
Farrari Formula I				16.95		–
Flintstones				11.95		11.95
Fondation's waste				–		14.95
Garfield				11.95		11.95
Ikari wariors				–		9.95
Interceptor				16.95		–
Inter. Soccer				11.95		11.95
Impossible Mission II				–		11.95
Mikey Mouse				–		11.95
Outrun				–		11.95
Obliterator				14.95		14.95
Pac-Land				11.95		11.95
Platoon				–		11.95
Pink Panther				11.95		11.95
Pandora				11.95		11.95
Return To Genesis				11.95		11.95
Road Blasters				14.95		11.95
Shackled				–		11.95
Sherlock Holmes				14.95		11.95
Sidewinder				6.95		–
Spindertronic				–		11.95
Test Drive				16.95		16.95
Tree Stooges				18.95		–
Vixen				11.95		11.95
Verminartor				–		14.95
Xenon				11.95		11.95

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HARDWARE UPG

	BUYLINES	GRAPHICS & SOUND
ACORN ARCHIMEDES		
THE RANGE consists of the 305, 310 and 310M, packaged as keyboard, mouse and drive with or without monitor (colour or mono). M denotes the inclusion of a PC emulator **THE PROCESSOR** is the Acorn ARM and the 305 comes with 512K, while the 310 boasts 1Mb of memory. ● **Recommended retail price**: from £801.60 for the 305 alone to £1188.00 for a 310M with colour monitor	**FULL PRICE** is the order of the day so far, since it hasn't been around long enough to become a second-hand buy. ● **One year's guarantee** – faulty machines should be returned to the dealer.	**RESOLUTION** is either 320 x 256, 640 x 256 or a pin-sharp 640 x 512 with multi-sync monitor. With a palette of 4096, up to 256 colours on-screen at once (in 320 x 256 mode) or 16 (640 x 512). The Archie boasts one sprite, and fast graphics. Note that a TV modulator is not provided. ● **Monitor output**: b/w — composite video; colour – RGB + sync. **THE INTERNAL SPEAKER** is good quality, while the Archimedes also has a **MIDI interface, stereo output, 16 channels** (8 stereo pairs) and covers **six octaves!**
APPLE MACINTOSH		
THE TWO MODELS in the range – the SE and Macintosh II – comprise a monitor with built-in CPU and disk drive and a separate keyboard. **1Mb MEMORIES** are common to both, the SE using a Motorola 68000 processor, and the II a Motorola 68020. ● **Recommended Retail Price:** SE £2,294.25 upwards; II £4,329.75 upwards.	**NOT CHEAP** even if you go second-hand. There's not much of a discount market in new Macs, so you generally have to pay list price. Check small ads in specialist magazines for used versions. ● **'APPLECARE'** is an optional 'insurance' scheme for covering the cost of repairs outside the guarantee period, but apart from that you just get the standard **one year's warranty**.	**VERY SHARP** graphics are a feature of the black and white SE, with resolution of 512 x 342. The II, though boasts figures of 1027 x 760, and a palette – with colour monitor – of 16 million! Between 16 and 256 colours can be used on-screen at once. For such a powerful machine, the graphics are only reasonably fast, while there are no sprites. A TV modulator is not supplied. ● **Monitor output:** Integral monitor. **GOOD SPEAKER QUALITY** goes with **4 channels** and good overall performance. Third party **MIDI interfaces** are available, and although the SE doesn't offer stereo output, the II does.
ATARI ST		
THE TWO basic models in the range – the 520STFM and 1040STF – are supplemented by various Mega STs, and come as a keyboard with built-in disk drive. **512K OF MEMORY** is standard on the 520STFM, while the 1040STF offers 1Mb. Mega STs typically have 2 or 4Mb. All use Motorola 68000 processors. ● **Recommended Retail Price:** 520STFM £299.99; 1040STF £499.99	**GOOD PACKAGES** can sometimes be found, but as a rule you won't get much under the RRP. Check out classified ads in magazines for second-hand buys. ● **One year's guarantee** as usual, and faulty machines should be returned to the dealer.	**HIGH, MEDIUM AND LOW RESOLUTION** modes exist, with high res (640 x 400) available only in monochrome. Medium res (640 x 200) can handle 4 colours from a palette of 512, while low res (320 x 200) offers 16. The 520STFM can plug into a **TV**, but other models need a modulator. There are no sprites. **Monitor Output:** RGB/Monochrome **MIDI INTERFACE** there may be, but no stereo output. Three channels, 8 octaves and envelope shaping complete the package.
COMMODORE AMIGA		
THREE MODELS have been produced – the Amiga 500, A1000 (now discontinued) and A2000 – and are supplied as a keyboard with built-in disk drive. Packaging of the A1000 will depend on individual dealers. **ONLY 256K** was offered by the A1000, but the **500** has **512K** and the **A2000 1024K**. All use the **Motorola 68000** processor. ● **Recommended Retail Price: A500** £499.99; **A1000** none – discontinued; **A2000** £1236.25	**CHECK DEALERS** for special packages by all means, but as a rule Amigas are not at present sold below the RRP. Second-hand availability is limited as yet. **Faulty machines** should be returned to the dealer within the guarantee period.	**THE GRAPHICS CO-PROCESSOR** allows sprites (there are 8 of them) to be 're-used' under some circumstances and offers **powerful windowing capabilities**, while a **block image transferrer** (blitter) speeds up large-scale graphics work enormously. **Resolution** is 640 x 200 with a palette of 4096. 16 colours can be used in high res, 32 in low res and 4096 in hold and modify. A **TV modulator** is extra, while the **Commodore A1081 monitor** weighs in at £349.99 ● **Monitor Output:** SCART **COMPREHENSIVE SOUND** facilities include **stereo output**, 4 channels, 9 octaves, **built-in text to speech synthesis**, and programmable waveforms, amplitude and frequency modulation. **MIDI facilities** are not built-in, but third party **interfaces** are available.
IBM & COMPATIBLES		
IBM'S PC is the original, but the many clones include **Amstrad's PC1512** and **1640 series**, **Tandy's 1000EX**, **Spectrum Bondwell 32**, etc. Specifications given apply to most IBM compatibles unless particular riders are made. If you are thinking of buying a PC or compatible, check salient details with dealers first. **Packages** depend on the manufacturer. You can buy the bare bones or the whole works. **MEMORY** is usually between **512** and **640K**, while the **processor** is the **Intel 8086, 8088** or variants. ● **Recommended Retail Price:** From around £400 for the cheaper basic clones to £1500 for top-of-the-range clones (with hard disk, colour monitor etc.). IBM machines themselves are considerably more expensive.	**GOOD VALUE** packages like the Amstrad are worth going for, but if you know what you're doing even better bargains can be had from discount stores. If you don't know what you're doing go for a reputable brand. PCs can often be picked up **second-hand** in auctions of computer and office goods, or through magazine adverts. **Faulty machines** can be returned to the dealer, but a **maintenance contract** – often surprisingly cheap – can guarantee your peace of mind.	**THREE COMMON GRAPHICS STANDARDS** exist – CGA, EGA (Normally fitted as upgrade, but comes as standard on some PCs – eg Amstrad PC1640) and Hercules. Graphics are not provided as standard on PCs, although nowadays most are sold with the necessary add-on boards already installed. These three standards account for almost all cheap current PCs, but other adaptors do exist. Second hand PCs may have unusual or text-only displays. **RESOLUTION** with **CGA** (Colour Graphics Adaptor) is 320 x 200 in low res and 640 x 200 in medium res. **EGA** (Enhanced Graphics Adaptor) has both CGA graphics modes plus 640 x 350 high resolution, while the **Hercules** standard offers resolution of 720 x 348. **PALETTES** vary – **CGA** has none as such, just three different colour schemes in low res. **EGA** has a palette of 64, while **Hercules** is mono only, and is often built-in on mono PCs. **COLOURS** available in **CGA** are 4 in low res and mono in high res. CGA is the most common PC colour standard; **EGA** offers 16 and **Hercules** is mono only. **TV** output is not supplied. There are no sprites, and graphics speed varies according to the software. ● **Monitor Output:** Normally RGB **POOR SPEAKER QUALITY** is a general characteristic. PCs are not really machines for the musician, especially in view of recent competition from Atari and Apple Macintosh. Stereo output is not provided, but third party **MIDI interfaces** are available.

GRADE GUIDE....

HARDWARE & SOFTWARE	IN BRIEF
THE BUILT-IN DRIVE is good and fast, and takes 3.5 inch disks holding a healthy 800K formatted. **Very comprehensive keyboard** includes programmable auto-repeat rate, but has a **surprisingly cheap feel** given the machine's quality. A **3- button mouse** comes with the machine, but a **joystick is not supported.** ● **Also provided:** RS423 serial, Centronics compatible parallel, 9-pin mouse socket, 3.5mm stereo jack, 64 way din, 41612 expansion port, IEC 320 video outlet and I/O interface (BBC compatible). **EXISTING SOFTWARE** is limited to *Zarch* (ACE Rated 979), *Conqueror* (ACE rated 931), and a couple of databases from Minerva Systems. **Graphics potential** is enormous, with a couple of packages now available. **Powerful music possibilities** too, which the software houses have yet to pick up on though. ● **Prospects for the future** are very good, but not necessarily for games market, even though there is at least one more game on the way, together with a couple of adventures.	**ARCHIMEDES** – the cutting edge of micro technology... ...so it's not going to be cheap. Nor does it have the software base of longer-standing micros. It's a very exciting machine, but best left to the real enthusiasts – at least for now.
800K FORMATTED fits onto the 3.5in disks taken by the built-in drives, which are fast and reliable. The 81 keys of the standard keyboard include function keys and a numeric keypad. An optional extra is the **Apple Extended keyboard**, with 105 keys. Joystick is not supported, but a high quality one-button mouse is supplied. ● **Also provided:** SE 2 – Apple Desktop Bus connector; 2 RS232/RS422 serial; external disk drive; 96-pin Euro-Din expansion slot SCSI – DB-25 connector; External audio amplifier: II – 2 RS232/RS422 serial; DB-25 SCSI T. **A WIDE RANGE OF SOFTWARE** exists in virtually all fields except games. These are limited to a small selection of arcade games, but there are a number of adventures. **Business and DTP** fields are particularly well supported, but watch out for US software that hasn't been thoroughly tested. **Interesting graphics packages** for those interested in DIY publishing, while there's **lots of MIDI software** – but it's expensive stuff. ● **Prospects for the future** are excellent, especially in business and DTP.	**EXPENSIVE** and up-market machine for those keen on desk-top publishing, wimp systems and classy software – which is very expensive. Games are mostly limited to icon-driven adventures. Good for MIDI musicians, but be prepared to pay through the nose.
360K OR 720K fits onto a 3.5in disk, depending on whether the (built-in) drive is 0.5 or 1Mb. The keyboard has 96 keys including 10 function keys, and joystick ports are standard. A two-button mouse is supplied with the machine. ● **Also provided:** MIDI out (5 pin DIN); MIDI in (5 pin DIN); audio out; audio in; RGB monitor; mono monitor; serial/modem port; second disk; hard disk; mouse/joystick; joystick; cartridge; TV. **LIMITED SOFTWARE BASE** by 8-bit standards, but the Ataris are the **best-supported** of the new machines – Most major software houses convert their output to ST now, and several smaller houses specialise in ST titles. The range of **arcade titles** isn't bad, while **adventures** are rarer but generally very good. The only **fly in the ointment** is that a 360K disk can't hold a really large ST program, so **two-disk titles** are becoming increasingly common. The disk-changing these require can get tedious, especially where you've got to swap disks during play. There are several **first-rate graphics packages** around, and **musicians** are catered for very well indeed, with many companies producing sound editors, samplers, synths, etc. ● **Prospects for the future** are very bright, and the Atari could soon rival the Spectrum and C64 for numbers of new releases.	**EXCELLENT** general-purpose home machine for games, small businesses, and productivity – it's the number one choice for MIDI musicians. The ST's price could still give it the edge for artists over the Amiga. One of the first machines to feature a disk drive in the side of the console, this design has now been taken up by other manufacturers.
A WHOLE 880K formatted fits onto the Amiga's **3.5in disks**, which are loaded via a surprisingly **sluggish and noisy drive**. The 94 key keyboard includes 10 function keys, a numeric keypad and separate cursor cluster. A mouse is supplied as standard. ● **Also provided:** Two joystick/mouse; audio output left and right; extra disk drive; serial RS232; centronics parallel; RGB/video; monochrome video; expansion bus **SMALL SOFTWARE BASE** in comparison to 8-bit machines, but releases are just beginning to pick up. **Arcade games** are not yet up to the capabilities of the machine, but the few adventures so far released are generally of good quality. The quality and range of **graphics** products is outstanding, which the **music potential** of the Amiga is superb. There's **little MIDI support** as yet, though. ● **Prospects for the future** are good, but the A500 needs to establish a larger user-base before becoming a prime development machine.	**STUNNING SPECIFICATION,** and despite initial uncertainty software support now seems assured. Although overshadowed by the ST in the UK to date, overseas sales (particularly in US) are high. An excellent machine for those who can afford one.
5.25in DISKS are used by PCs as a rule, but some very new models do use **3.5in disks**. Capacity is almost always **360K** formatted. Performance is generally reliable and pretty fast – faster still, of course, with hard disks. All models include function keys and separate numeric keypads. A wide variety of **third-party keyboards** is available. Two **different joystick standards** exist – IBM (analogue) and Amstrad (Atari style – the norm for games playing). Most games support either IBM or both, but Amstrads can now be adapted to use IBM joystick. Newer models (eg Amstrad) include mouse in package. **Third party mice** are available for mouseless PCs. ● **Also provided:** Various interfaces can be expected to include centronics parallel; RS232; plus expansion port with most machines. Some of these are optional. **A VAST SOFTWARE BASE** already exists for PCs, with releases still pouring out. Price levels are dropping as well. Cheaper machines have meant that **more and more games** are being released on the PC – both arcade and adventure types. The **CGA graphics standard** used to be predominant, but an increasing number of **EGA games** with superior graphics are appearing. The PC has only recently been perceived as a machine with games potential. Many sophisticated business graphics packages exist, but there's not much for the artist. Musicians can choose from a fair selection of – expensive – MIDI packages and interfaces. ● **Prospects for the future** are good, since releases aren't likely to dwindle as long as there are PCs on desks.	**BUSINESS ORIGINS** of the PC can't be disguised, but for all that they represent superb value if you want an all-round machine. Increasing numbers of games software releases include few of the coin-op arcade variety though, and PCs are definitely not to be considered if entertainment is your first priority.

RANDOM ACCESS

Welcome to the regular section of the magazine that promises to puzzle, tease and perplex you. We've got a fiendish puzzle and a cryptic crossword to give you some mental exercise, and something to make you chuckle. If you reckon you could draw a cartoon that will give us a giggle, don't hesitate to send it in (for the best chances of reproduction, draw your cartoons black on stiff white paper). If you're one of those types that needs extra motivation to get your thinking cap on then consider the fact that the first correct entry pulled from the hat after the closing date for both the puzzle and the crossword wins £25 worth of software – so, heads down and get to it!

THE ACE PUZZLE No4

Set by Archie Medes

If: ACE divided by 2 = 567
and CAB divided by 3 = 439
and ADD divided by 9 = 135
what four-letter word divided by thirteen will equal......what?

Instead of working this out with pencil and paper why not devise a simple listing that will enable your micro to solve it for you?

PUZZLE ENTRY FORM

NAME ....

ADDRESS ....

....

....

COMPUTER OWNED

....

I think the solution is:

_ _ divided by thirteen = _ _ _ _

Send your answers to:

PRIZE PUZZLE 4,
ACE, 4 Queen Street, Bath BA1 1EJ.
Closing date July 10th.

SOLUTION TO PUZZLE No2

The only possible arrangement that the cards could have been in at the start of the experiment was (from left to right) 2, 5, ACE, 4, 3. This would result in a final arrangement of 4, 5, 3, ACE, 2.

– and the first correct entry out of the hat came from **Vivienne Moore of Hawick in Roxburghshire**.

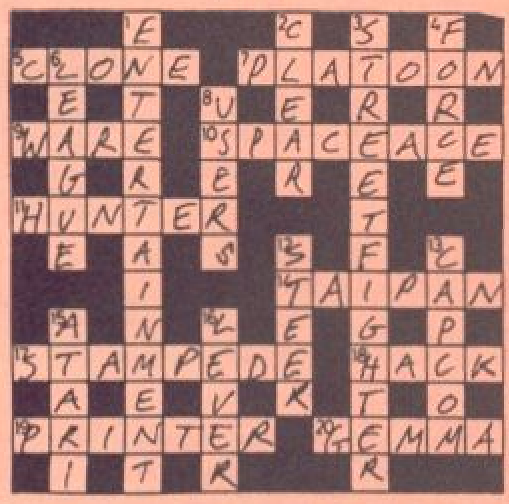
In order to perform the operations as described there are certain conditions which must exist at certain points during the experiment. For example, to 'exchange the cards either side of the five' tells us that the five, at the moment, cannot be at the end of the row. Consequently, for any random distribution of cards at the start of the operation, there is a chance that, at some point during the movement of cards an impossible situation will be obtained. With five cards there are 5 (factorial 5) possible opening positions. Factorial five is found by multiplying 5 x 4 x 3 x 2 x 1 and equals 120, this relates to the five possible choices for the first card in the row, four choices for the second and so on. These 120 opening permutations are held in the DATA lines in the program. This sequence has been evaluated using a simple algorithm to ensure all permutations have been included.

Each of the permutations is taken in turn as representing the opening position of the cards at the start of the experiment and each move is performed in order. To do this, the numeric value of each character in the string X$ is transferred to the relevant element of the array C(5). To move the cards, the program first locates the position of the named card, checks that a valid move is possible and then switches the values in the array as required by the instructions. Should an impossible move be requested, that trial is abandoned and the next opening position is called.

The final instruction must result in the ACE being in fourth position, in which case the start and finish positions are printed out.

```
10 REM SET UP ARRAYS
20 DIM C(5), S$(120)
30 FOR N=1 TO 120:READ S$(N):NEXT
40 REM START POSITIONS
50 FOR Q=1 TO 120
60 X$=S$(Q)
70 FOR N=1 TO 5:C(N)=VAL(MID$(X$,N,1)):NEXT
80 REM MAKE MOVES
90 REM MOVE #1
100 IF C(1)=1 OR C(5)=1 THEN 380
110 N=2
120 IF C(N)<>1 THEN N=N+1:GOTO 120
130 Z=C(N-1):C(N-1)=C(N+1):C(N+1)=Z
140 REM MOVE #2
150 N=1:M=1
160 IF C(N)<>1 THEN N=N+1:GOTO 160
170 IF C(M)<>2 THEN M=M+1:GOTO 170
180 C(M)=1:C(N)=2
190 REM MOVE #3
200 IF C(1)=5 OR C(5)=5 THEN 380
210 N=2
220 IF C(N)<>5 THEN N=N+1:GOTO 220
230 Z=C(N-1):C(N-1)=C(N+1):C(N+1)=Z
240 REM MOVE #4
250 IF C(1)=4 THEN 380
260 N=2
270 IF C(N)<>4 THEN N=N+1:GOTO 270
280 C(N)=C(N-1):C(N-1)=4
290 REM MOVE #5
300 IF C(1)=3 OR C(5)=3 THEN 380
310 N=2
320 IF C(N)<>3 THEN N=N+1:GOTO 320
330 Z=C(N-1):C(N-1)=C(N+1):C(N+1)=Z
340 REM PRINT FINISH POSITIONS
350 IF C(4)<>1 THEN 390
360 PRINT "START: ";S$(Q);" FINISH: ";:FOR N=1 TO 5:PRINT
STR$(C(N));" ";:NEXT
370 PRINT
380 REM NEXT START POSITION
390 NEXT Q
400 END
1000 DATA
12345,12435,14235,41235,41325,14325,13425,13245,31245,314
25,34125,43125,43215,34215,32415,32145,23145,23415,24315,
42315,42135,24135,21435,21345
1010 DATA
12354,12453,14253,41253,41352,14352,13452,13254,31254,314
52,34152,43152,43251,34251,32451,32154,23154,23451,24351,
42351,42153,24153,21453,21354
1020 DATA
12534,12543,14523,41523,41532,14532,13542,13524,31524,315
42,34512,43512,43521,34521,32541,32514,23514,23541,24531,
42531,42513,24513,21543,21534
1030 DATA
15234,15243,15423,45123,45132,15432,15342,15324,35124,351
42,35412,45312,45321,35421,35241,35214,25314,25341,25431,
45231,45213,25413,25143,25134
1040 DATA
51234,51243,51423,54123,54132,51432,51342,51324,53124,531
42,53412,54312,54321,53421,53241,53214,52314,52341,52431,
54231,54213,52413,52143,52134
```

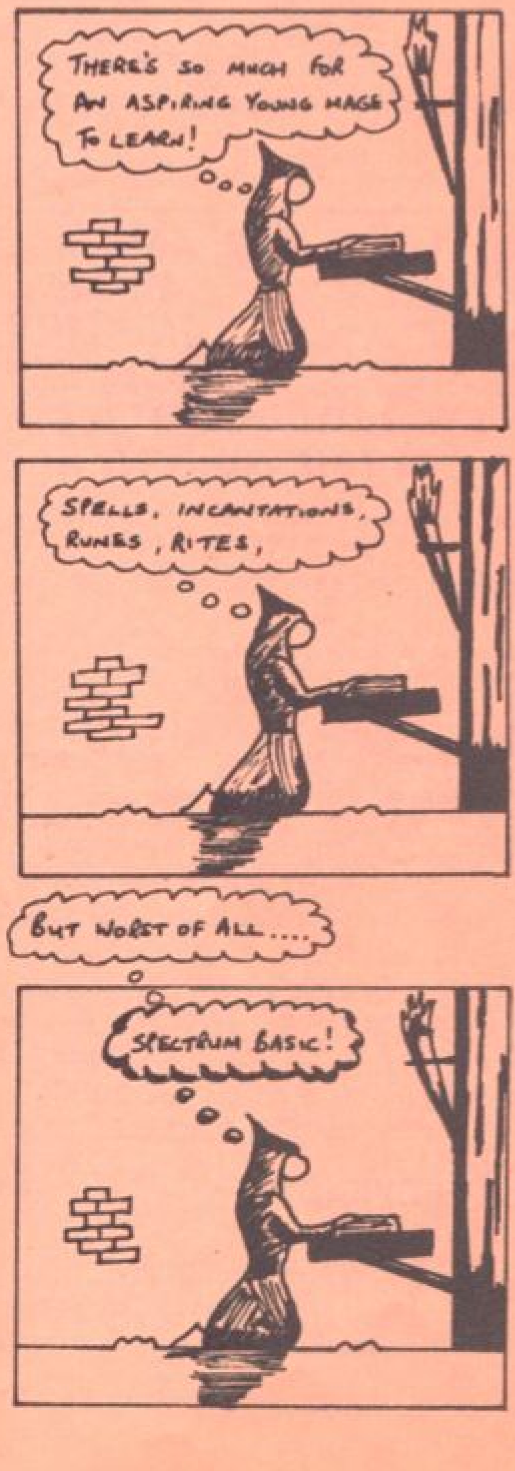
SOLUTION TO PRIZE CROSSWORD No2



Prize crossword winner was **Steve Guy** of **Maghull**.

IN THE DUNGEON

by Striker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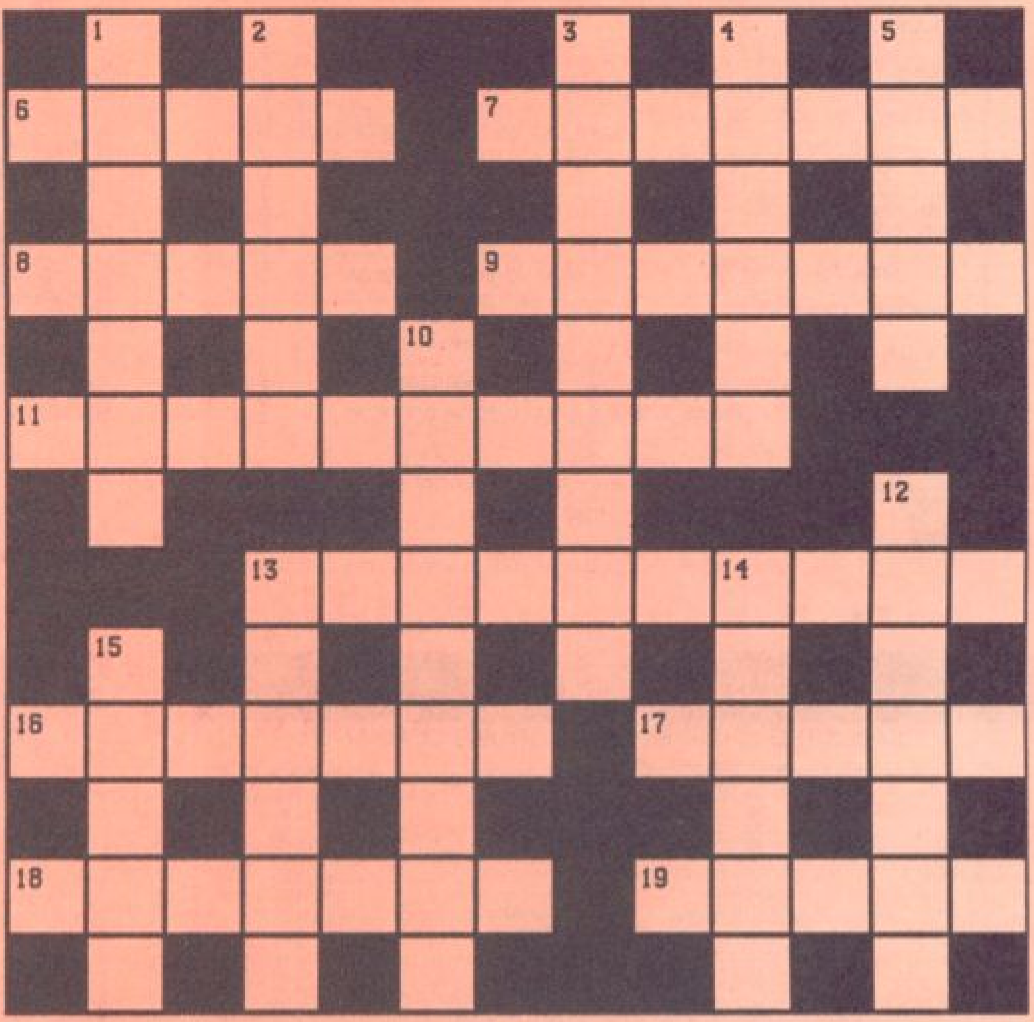

ACROSS

6. Language that's plain and simple (5)
7. Drive around Northern Ireland to get a screen (7)
8. Makes a hit with the suit (5)
9. Game played by the Moor of Venice (7)
11. The main strength of a war game from Accolade (5,2,3)
13. Not mutually exclusive (10)
16. Stunt Ed performed as a learner (7)
17. Pete's version is a bit expensive (5)
18. Rat torn to pieces in game (7)
19. A once revolutionary software house (5)

DOWN

1. The old craft of recompiling – all gone! (7)
2. A few bits to bite at (6)
3. Gremlin's guiding light (5,4)
4. Came in to develop silver screen (6)
5. Makes a delivery of the game (5)
10. Game trials held here annually (9)
12. Writing instructions for computer head doing translation (6)
14. At home Diplomacy is all there (6)
16. Where to shop for memory space? (5)

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● I can help Spectrum owner with GAC, +2 loading problems, removing attribute clash + any basic programming problems, GAC, PAW and I also have an extensive knowledge if ZX BASIC. I can help fellow P B Mers on Hade Games 'Avalon'. Just send an SAE to:
Matt Burke, 33 Brookhouse Hill, Fulwood, Sheffield, S10 3TB.

● Jack The Ripper (p1-3), Dracula (p1-3), Hampstead, Big Sleeze and others.
N Buzzard, 11 Faversham Drive, Weston-super-Mare, Avon, BS24 9NZ.

● Special Agent, Sunburst, Pile-up, Renegade, Jack Nipper II, Pacland, IO, Morpheus, Arkanoid II, Sabotage, Scumball, Garfield, Gauntlet II, Rockford, Rastan, Bosconion, Zybex, Nebulas, Sidewize, Platoon, 720, Centurions, Tai-Pan, Ramparts, Deflektor, Spore and loads of other new titles.
Robert Troughton, 42 Bowfield Terrace, Silsden, Keighley, W. Yorks. BD20 9PT.

● Help for Deja Vu, Jinxter, Gremlins also pokes and tips on all old and new games for C64 and Spectrum. Call 031 556 0322 or write (sae not required) to
Martin Fraser, 25/14 Viewcraig Street, Edinburgh EH8 9UJ

● Elite – Commodore 64 – tips and advice given. Send for details to
Richard Wade, 8 Mill Lane, Duxford, Cambridge, CB2 4PT.

● Anyone who is stuck or needs help with M.U.D., either memo Katamati on M.U.D. or send sae to
Sacha Syed, 71 Wheatlands, Heston, Houndslow, Middx. TW5 0SG.

● On-C64 Gooch all star cricket need to know the best averages for batting/bowling, when watching simulation (from my own custom teams) ideal scores needed are 150-300 runs, 100 overs. If possible all out in 110. I also need to know how to get into division one on these soccer Commodore 64 games. The Double, Soccer Boss, Football Director, as I am totally obsessed with these games.
Peter Lupij, 1 Crane Terrace, Tettenhall, Wolverhampton, WV6 9LX.

■ FOR SALE

● **SPECTRUM** plus tape deck, joystick, software over £550, books over £40, magazines over £150. All worth over £900, will accept £250ono. Phone Cambridge (0223) 880426.

● **C64** with 1541 disk drive and tape recorder, excellent condition £1.70ono. Tel: 051 339 7054 or write to Lee Miller, 32 Shepton Road, Great Sutton, South Wirral, Cheshire L66 4HA.

● **ATARI** STFM just over 1 month old, tons of software, mouse, two mouse mats, blank discs and more. All boxed, under guarantee. Phone Mat on 0793 642544 for details £600ono.

● **ATARI** collection for sale, Atari 800XL 1050 drive, tons of original software at silly prices, Atari SF354 drives 2 for £150. Call Stu on 0473 690088, 2 Purplett Street, Ipswich.

● **AMSTRAD** CPC & COMMODORE 16 games for sale. Phone Gareth on (0222) 618726 also, Commodore 16 computer for sale (no. 5 key missing), inc. books, datacassette and leads, £20. (0222) 618726.

● **ATARI** ST games for sale all in v.g.c. inc. The Bards Tale. All half price or less, also for sale 20 L.P.s for more details phone St. Albans 59519 after 4pm.

● **AMSTRAD** CPC 6128, monitor, disk drive, modulator, Multiface II, books and magazines worth over £150 and software worth over £550 r.r.p. over £1100 only £400ono. Phone Medway (0634) 253030. Still under guarantee.

● **40** unused 3 1/2 inch disks, (suit Amiga, ST's etc.x only 90p each. Will seperate but must be collected. Ring Jim 061 773 4199. (Manchester).

● **ATARI** ST plus 16 new titles including International Soccer, Obliterator, Ikari Warriors and Black Lamp. £360ono. Phone 01 504 4150 contact Tony.

● **COMMODORE** 128, C2N, £450 worth of software including head alignment and cartridge, joystick and books. All for £400ono. Phone Nick after 4.30pm 0277 74306, Brentwood, Essex.

● **C64** with tape recorder, joystick and over £500 of software including Skate or Die, Platoon and Test Drive. Lots of Zzaps. Normally £700 now £200. Contact Ashley on 0223 833523.

● **AMSTRAD** CPC6128 colour (offered reluctantly to finance 16-bit upgrade) with Dktronics tuner, tape deck, loads of disks/tapes (including games, utilities, business). piles of books/magazines. £300. Pat Winstanley 0942 227013.

● **SPECTRUM** plus 2 with joystick, games, utilities, magazines, books. Little used, review purposes only. (reluctant sale forced by 16-bit upgrade). £100. Pat Winstanley 0842 227013.

● **SEGA** Master System. Five months old includes, Hang On, Outrun and Space Harrier, plus three joysticks. Still boxed, as new, £100ono. Tel: Telford (0952) 594300 ask for Lee.

● **SPECTRUM** 48K triple interface and joystick £300 software. All leads instruction manual £100ono. Tel: 01 377 7178 after 4pm.

● **AMSTRAD** 6128 colour, DMP2000 printer, blank discs, £300 of original disc software: GAC, Protext, Sentinel, Gauntlet, Trivial Pursuit and many more. Only £350. Philip Birtwistle, 6 Colbran Street, Burnley, Lancs.

● **CBM64**, datacassette, back up-interface, Robtek cartridge, well over £200 of software. C&VG from Oct.85 £300ono. Also selling colour CPC6128. Phone 01 471 1275 after 6pm for details, ask for Riki.

● **AMSTRAD** mono 464 plus modulator RAM music machines, speech synth, joystick, over £900 of software, loads of mags. Recently serviced. Worth £1200. Sell for £400. Tel: Newark 72561.

● **CBM64** includes disk drive, freeze frame, over 150 games, two cassette recorders, joysticks and speech system, Still under guarantee. Total value over £1000. Sell for £300. Tel: (0952) 593780

● **AMSTRAD** 464 green monitor, modulator, joystick, loads of mags, over £470 software, cassette boxes. Bargain at £260. Phone Paul on 0277 630790 weekdays after 5pm or 0277 654642 weekends.

● **SEGA** system as new, joypads, Konix joystick, Hang-on, Pit-put, Astro Warrior. Boxed, still guaranteed. Worth £140, bargain at £90. Unwanted present. Tel: Stuart (0872) 572127, Nirvana, Cocks Hill, Bolingey, Perranporth, Cornwall, TR6 0AT.

● **COMMODORE** 64 Prism modem plus Comms pack for sale £35ovno. Also a 1531 datacassette for

C-64 £15 and over 35 C-64 software titles starting at £1. Phone Basildon (0268) 23755.

● **CBM64** data cassette, mouse, freeze machine, joystick, over £100 of software. £180. Tel: (0322) 77016.

● **COMMODORE** 64, printer, modem, joysticks, 2 datasettes, paddles, books, dustcovers, over 50 original titles plus G.A.C., Basic Lightening, etc. Sell for £250ono. Ring Laurence after 4pm weekdays on 01 646 0746.

● **CBM64** with datacassette, books, joystick and teletext decoder, plus loads of games on tape. All working. Yours for £300. Tel: (0793) 740 764 ask for Dennis.

● **SEGA** Console fully boxed, 3 months old, perfect condition. Including Hang On, Astro Warrior, Rocky, World Soccer, My Hero, Afterburn. Will sell for £140ono. Phone 01 291 7094 after 5pm.

● **SPECTRUM** 128K, tape recorder, joystick, interface, manuals, all boxed and good as new. Over £200 original software including Driller, Matchday II, Paperboy etc. For £150. Phone 0242 32293 after 6pm.

● **48K** Spectrum, upgraded keyboard, over 60 games, datacassette, joystick, loads of books, mags, remote control joysticks, £80. Also Plus 4 Computer, as new, with some games £45. Phone (0935) 74261.

● **ATARI** 1040STF, 1 meg drive, 1 meg RAM with £400 of games and graphic software, mouse and mat. Phone 01 452 5382 ask for Flat 1 £450 ono (Please call after 6pm).

● **AMIGA** 500, 2 joysticks, mouse & mat, dust cover, guarantee forms, deluxe paint, 4 games. Will sell for £400. Please write to Shane Jones, Hawarden Road, Colwyn Bay, Clwyd, North Wales LL29 8NA.

● **C64** games for sale all latest and original includes Platoon, Nebulus, 720 and many more. All around £5. Contact Richard Metcalfe on Darlington (0325) 720985. Please phone after 5pm.

● **COMMODORE** 64, C2N, 1541, d/drive, freeze machine, loads of Commodore magazines, over £1700 worth of original software. Worth over £2000 sell for £900. No splitting. Phone 01 274 8761 as for Enrico.

● **CBM64**, datasette, over 100 games, books, magazines and maps, hints, pokes etc. £100 the lot. Tel: Stamford (0780) 763589.

● **SPECTRUM** plus 2, 4 months old over £200 of software, Gnome Ranger, Garfield, GAC, Silent Service. £800 the lot. Also Atari ST Games: Pawn, Passengers on Wind, Zork II, Bards Tale, Kings Quest 1,2 & 3, Knight Orc, Defender of Crown. (All under 1 month old) £120 or £15-£20 each. Y.A. Mollard, Shellbourne Hotel, 1 Lexham Gardens, London W8.

● **SPECTRUM** 128, Brother 1109 printer, software £740, tape recorder, magazines, interface, one Kempston joystick, mouse and interfaces.Total over £1150 sell £450ono. Phone Michael after 18.00 on 06267 79176.

● **C64** C2N cassette unit, two joysticks, one pair of paddles and 34 games plus programmers reference guide and 8 computer mags. £100. Tel: 01 790 1087.

● **AMAZING** deal Commodore 128, 1541 disk drive, MPS801 printer, freeze frame, quickdisc plus, neos mouse cheese package and tons of tape and disc software. £280. Phone 01 368 0778. Get in quick!!!

● **SEGA** Console excellent condition with four carts including Out Run and Afterburner. Worth £195. Sell for £100. Buyer to collect if possible. Phone Fordingbridge (0425) 55417 evenings.

● **COMMODORE** 64 data cassette, 40 originals (software), excellent condition only two years old. Realistic price only £100. Tel: Camberley, Surrey 0276 20284.

● **AMSTRAD** CPC 464, colour monitor, over £100 worth of software and loads of magazines. Under 1 year old, worth over £500. Bargain £230ono. Phone Rick on (0499) 711885.

● **SPECTRUM** plus 3, multiface 3, joystick, tape recorder and leads, disk box, games on disk and tape. Quick sale. Bargain at £220ono. Phone 0455 284543 after 4pm. Will trade for Atari STFM.

● **COMMODORE** 64, disk drive, 2 datasettes, expert cartridge, joysticks, mouse, over £900 of original software, magazines, input course. Cost over £1300, sell for £350. Tel: (0444) 413425.

● **COMMODORE** 64, 1541 disk drive, C2N cassette, games and other software plus technical reference books, only £220. Phone 091 581 7928 after 5pm.

● **SEGA** Console, 2 months old, with light phaser, 4 games, including Gangster Town and Out Run £120. Also for sale Commodore 64, C2N, joysticks, £350 worth of Software, £190. Anthony 01 908 3019.

● **64C** 1 1541 disk drive, 1701 monitor with printer plotter over £290 original tape and disk software, 100 blank disks plus other items, only £370. Phone Canvey Island 696999.

● **CBM64** C2N datasette over 220 games back up broad joystick for only £160ono. Contact Ian on 091 587 0885 or write to 15 Nelson Close, Horden, Peterlee, Co. Durham SR8 4BY.

● **128K** Spectrum plus 2 with interface and games including Exolon, Driller, Karnov, Bubble Bobble, ATF, Paper Boy, Outrun, Magnificent 7, Nebulus, Zynaps, latest 6 Pack. Under guarantee. £250. Phone 01 898 3691 evenings.

● **ATARI** ST sequencers, DRT KC5 48. Track Passport Midisoft Studio. 32 Track. Phone Larrie on 0246 203494.

● **COMMODORE** 128D, PC style unit, integral 1571 disk drive, seperate keyboard, plus datacorder. Action Replay MKIV, Quickshots II & IX, tons of disk software. £350. Call Ainsley, Dartford 337896 after 6pm.

● **COLOUR** 464, disk drive, light pen, Amdrum, AMX mouse, joysticks, speech synthesizer, 'Doubler' copier, multiface, manuals, mags, £400 games £450 worth £1200. Enquiries Tim (Derby) 850425 after 6.30pm. Will deliver.

● **AMSTRAD** 6128 colour, with many games and disks, cassette recorders, RS232, cables, books, £250. Also Spectrum plus 3, almost new, £130. Tony Hoyle, 11 Dorset Road, St. Annes, Lancashire FY8 2ED. 0253 727368.

● **CBM** 128D inc. disc drive, datasette, 2 joysticks, freeze frame, currah speech, over 150 pieces of software, 30 blank discs, input vol 1-4. Phone (0604) 38841. Price £400. Ask for Paul.

● **AMSTRAD** CPC 6128, colour, 3 years guarantee, multiface 2, mouse printer, joysticks, tape recorder, books, over 50 magazines, over £1200 software (disks). Many extras. Worth over £2000. Only £600. Phone (0227) 454520.

● **ORIGINAL** ST games, The Pawn £13, Guild of Thieves £13, Leather Goddesses £10, Perry Mason £8, Bridge Player 2 £12, Skull Diggery £7. Clive, 66 Billet Lane, Berkhamsted, Herts. HP4 1DR.

PUBLIC HEALTH WARNING

Needless to say, we cannot ourselves vouch for the credentials of any particular entry in this section. If you respond, it's at your own risk.

● **LOOK!** Amstrad 6128, green screen, 2 joysticks, over 100 excellent games, comes with box and manual, headphones and 23 Amstrad mags, £290. Phone 01 886 8988 6pm-9pm. Anytime weekend. Ask for George.

● **ATARI** 520 STFM, complete with games, utilities, demos, books, and magazines. Complete system worth over £950. Bargain at £400ono. Phone 091 273 2097 after 6.30pm.

● **ATARI** 520 STFM, fast basic (ROM), over £600 of games including Super Sprint, Eco, Starglider, Defender of Crown and many more! Still boxed. Worth over £1000. Sell £529ono. Phone 0984 41085.

● **AMSTRAD** 6128, colour monitor, joystick, cassette plus leads and dust covers. Magazines, games and business software plus blank discs. £400. Phone Vince Romford 764713.

● **BBC** Master 120 dual opus drive £200 latest games including Joystick Super Art 30 disks four disk boxes only one year old. Bargain £600 Tel: (0942) 726968.

● **C128** datasette, 2 joysticks boxed and in excellent condition, including over £150 worth Software. Reason for selling – upgrading. Price £200ono. Call 01 228 9421 or 01 672 7270 ask for Nimisha.

● **SPECTRUM** 128 plus 2. Sinclair joystick, 36 games and £20 worth of computing magazines. Sell for £200. Contact Neil on 01 540 2826 after 6pm. All boxed and in excellent order.

● **COMMODORE** 64, 1541 disk drive, MPS 801 printer including paper, datacassette plus over £600 worth of original cassette and disk software £290ono for quick sale. Ian 01 542 8348 (after 6.30pm).

● **AMSTRAD** 6128 mono with games, joystick, books and mags. It cost an arm and a leg but I'm selling for £180. Write to S. Kelly, 68 Dechmont Avenue, Motherwell, Scotland ML1 3LS.

● **SPECTRUM** plus 2, joystick, interface and £200 games (up to date) 4 months old, fully boxed. Worth £350, sell for £150ono. Phone Anish 01 908 3516 (4-8pm). Genuine reason for sale.

● **COMMODORE** 64, plus 1541 discdrive, datacassette player, joystick, Action Replay III cartridge, also many games, with word processor and books. Sell for only £220ono. Tel: 01 274 3072.

● **520** STFM Atari IMB drive. Too much software to list, but worth many hundreds. £480 no offers. Basildon (0268) 284021 after 6pm.

● **AMSTRAD** 464, colour monitor, over £300 worth of games. Lots of mags and joystick. All worth over £600. Sell for £195ono. Phone Matt Oakley on (0892) 28563.

● **AMSTRAD** 6128 with built in disc drive over £200 worth of software (disc), 2 joysticks only 6 months old. Under guarantee £220ono. Tel: 01 509 0193 after 5pm.

● **AMSTRAD** software for sale. All at very low prices. All software is original. Please send for a price list with sae to Martin Joyce, 98 St. Johns Road, Wembley. Middx, HA9 7JN.

● **CBM64**, data cassette, joystick. All excellent condition. Plus over 120 games. All for £170 (inc. postage). Also Sega system and nine games, boxed £120. Phone Dave 031 3324618 after 6pm.

● **COMMODORE** 128, boxed with 1570 disk drive, datasette, expert programaable cartridge, disk box, 50 disks, books, mags, lots games including Gunship, Ultima IV, Outrun, Subbattle Simulator. Tel: (0733) 75748 after 6pm.

● **CBM64**, 1541 disc drive plus software (Defender of the Crown etc.), C2N cassette unit plus software (Rampage etc.), joystick, unused Christmas present, unbeatable bargain £199. Contact N. Ireland (0266) 871355.

● **FIND'A'WORD**, the only playable wordsearch creating program for the Amstrad plus 5 free examples. Only £5.95 (tape) or £7.95 (disc). SAE for details. Steve's Services, 40 Finmere, Bracknell, Berks RG12 4WF.

● **ATARI** 520 STM, hi-res monitor, 2 disc drives, over 100 games, fast basic chart, 20 blank disks, dust cover, mouse mat, disk box plus mags. £450ono. Call Darren (0430) 440735.

● **COMMODORE** 128, C2N datacassette, 1571 disk drive, 1101 daisy printer, over 100 games, dust covers, sound sampler, 4 joysticks, 50 mags, 20 blank disks, 50 blank cassettes, printer paper, 4 new ribbons, compunet modem, lots of demo's. Still boxed v.g.c. worth over £2000. Bargain at £550. Phone Stewart on (0206) 540695 or write 6 Worthington Way, Colchester, Essex C03 4JZ.

● **AMIGA** 500 three months old starter pack worth £250, also Red October, Test Drive, Backlash, ten blank discs. Everything boxed as new £400. Tel: Doncaster (0302) 743826

● **SPECTRUM** Plus, turbo interface, joystick, 150 games, brand new powerpack, all leads, cassette recorder, manuals, worth £850, sell for £200ono. Tel: Essex (0992) 713674 evenings.

● **C64** Plus, CN2, neos mouse, over £200 of original software including Arkanoid 2, Driller, Sevck, California Games, Bubble Bobble, Wizball, Epyx Epics, etc. Phone Reading (0734) 571704. Sell for £250ono.

● **ATARI** ST software, half price, Starglider, Flight Simulator II, Karate Kid, Defender Crown, Rampage, Arkanoid, Autoduel, Silent Service, Winter Games, Colonial Conquest, Phantasie III, Roadwar 2000. Phone Preston 0772 311684.

● **CBM** 64, C2N, Wico joystick, all boxed. £500 of games on tape, including many originals, everything good condition. £180ono. Tel: Soton (0703) 766486 after 6pm.

● **AMSTRAD** 464 green monitor, 2 modulators, 1 joystick, 18 issues of Amtix plus £193 worth of software. £220ono. Contact Chris Gardner, Highfield Farm, Homeapple Hill, Wick, Bristol.

● **ELECTRON** with plus 1, plus 3, data recorder, Philips monitor, T2P3, slogger, turbo driver, twin joysticks, games, books and mags. Cost over £900. Sell for £399. Phone 051 645 6994 after 6pm.

● **SPECTRUM** 128, boxed as new and complete, £310 worth of software, joystick, and interface, 5 books, 60 magazines, data recorder and Spectrum 48K worth £625 only want £300. Phone 061 928 2341.

● **CBM64**, D/drive, datacassette, Action Replay, cart., mouse, joystick, £600 software cass. and disk, 40 blank disks, disk box, mags, books, worth £900, v.g.c. Bargain £350 possible split, Phone (0986) 5567.

● **ATARI** 520 STFM, still boxed in good condition comes with manuals, mouse and joystick, over £175 of software also included. Will sell for £200. Ring 01 732 4397 after 4pm.

● **ATARI** 520 STFM two weeks old, boxed, mouse and mat, locking disk box, blank disks various games inc. Universal Military Simulator. Genuine reason for sale. Bargain £300. Tel: Tyneside 091 253 0643.

● **COMMODORE** 64, cassette recorder, joystick, over £200 of origianl software, over 60 magazines and books. Worth over £500. Sell for £200ono. Phone 0742 862460 after 5pm.

● **STFM** for sale, brand new with latest software: e.g. Carrier Command, Predator, ten disks, PD Software, word processor, art utility all for £310. Tel: Up Holland (0695) 633362. Ring soon!

● **520STFM** Atari and mono monitor £320 or split, monitor £100. Atari £220. Perfect condition house purchase forces reluctant sale. Some games. Phone 0634 55727 day. 0634 575039 evening. Nick.

● **AMSTRAD**, CPC464 colour, joystick, loads of software. All items in original boxes, AA1-32 plus other magazines. Offers for the lot or will split. Tel: 0283 225693.

● **SEGA** console perfect condition with Outrun, Choplifter, Hangon, Ghosthouse and Transbot £100. Tel: (0925) 39384.

● **CBM 64** with 2 weeks old 154K disc drive, 2 datasets, 2 joysticks, expert cartridge £900 worth of games on cassette and disc. Sell for £350ono. Phone 01 969 3721 after 5pm.

● **COMMODORE** 64 brand new accelerator plus disc drive, tape recorder, loads of mags, plus loads of tape and disc games. Will sell for only £300ono. Phone Sheffield 862741.

● **COMMODORE** MPS 801 dot matrix printer.Boxed as new with ribbons and manuals hardly used, excellent condition only £70ono. Quick sale!!! Phone Maldon (0621) 891586 after 5pm week days.

● **YAMAHA** PSR70 for sale. Transformer FM sounds PCM drums 5 octave full size keyboard midi in and out. Excellent condition. Under 1 year old. Sell for £550 RRP £699.

● **ATARI** 520 STFM four months old mint condition, four games £260ono. Phone Russell Graham on 0206 852646.

● **CBM64**, 1541 disc drive, CN2 cassette recorder, dot matrix 801 printer, mouse/cheese, software and discs for £270ono. Contact Sandeep Paul, (0455) 613043, 1 Alfreton Close, Hinckley, Leis. LE10 3RD.

● **COMMODORE** 64, data cassette, joystick, mags, 200 games, including, Hunters Moon, Arkanoid 2, Ten Great Games 2, Combat School. £275ono or swap for Atari 520 STFM. Romford 42909 after 6pm.

● **AMSTRAD** CPC464 disk drive, modulator, sound blaster, disk games, Driller, Renegade, Gryzor, Combat School, Gauntlet and more. 10 blank disks bargain at £160. Phone Mike (078571) 4836 Penkridge, after 4pm.

● **AMIGA** two months old, guaranteed with games £400 or swap ATARI STFM with cash or music set up synths etc. Don 0302 865138. Mick, 105 Allenby Cres. Rossington, S. Yorks. DN11 0JU.

● **COMMODORE** 64, immaculate condition, datacorder, 2 joysticks, paddles, light pen, £400 of games, £100 of magazines. Cost over £810 will accept £320ono. Ask for Andrew, Knottingley 87734 6pm-10pm.

● **ATARI** 800XL, 1050 disc drive. Parallel printer interface. Original manuals and leads. Lots of software inc. visicalc, mini office 2, adventures and games. VGC. Only £100 the lot. After 7pm 021 311 1182.

● **BBCB** 128K sideways and shadow RAM, 80/40 dual disk drive with PSU many ROMS, games, view, viewsheet, viewstore, toolkit, wordwise, graphics etc. mouse, joysticks, 40 disks. £400. Phone Reigate 243864.

● **C64**, new disk drive, data cassette, two joysticks, music maker, plus over £400 of software. Worth over £800. Sell for only £240ono. Tel: 048 526 259.

● **ST** games sale. Cyber Studio Cad 3D2 £35, Crazy Cars, Tracker, F15 Strike Eagle, Rampage, Pawn, Time Bandits, Karate Kid II, Formula I, Grand Prix £10 each. Phone Mick 0992 768066.

● **SPECTRUM** plus two, disciple and disk drive.Over 40 games including Driller, Pawn, Zynaps, Exolon, Hobbit, Scrabble, over 30 mags, books, all leads, manuals. £260ono. Daventry (0327) 79349.

● **COMMODORE** C128, 1570 disk drive, C2N cassette, £120, MPS 803 printer, £50. Expert with ESM, £14. All boxed with manuals in perfect condition. Phone Wickford (0268) 767936 day or evening.

● **MSX** computer 64K £200 worth of software including Army Moves and Track and Field. Data recorder and wiz card. Cost £300 sell for £150. Phone 01 472 5876 after 7pm.

● **ATARI** 600XL upgraded to 800XL (65K) 1010 data recorder, 1050 disc drive, £450 software, mags, books; three joysticks, Atari package, over £850. Sell £365, wont split. Justin 01 692 2688. (Free gift).

● **AMSTRAD** 6128, colour monitor, printer DMP 2000, 2 joysticks, light pen, art utilities, 30 games, tape deck computer compatible £570ono. Phone after 6pm, Crawley (0293) 516129.

● **CBM64**, datasette, disc drive, disks, joystick, cartridge (with expert), over 70 games, programming books, mags. £250ono. Tel: Bradford (0274) 598621.

● **MSX**, tapedeck, 5 cartridges including Nemesis 2, over £300 software, lots of mags, Zen assembler £150ono. Peter Henderson, 12 Dereham Way, North Shields, Tyne & Wear NE29 8BU.

● **48K** Spectrum perfect first computer with 30 games, datacorder, joystick, interface, remote joystick, mags and books. All hardly used. Phone Leo 01 340 9768. All for £180 only!

● **SPECTRUM** plus 48K, RGB module, turbo interface (plus spare interface) data recorder, 80 games, joystick, all boxed, excellent condition £100. Ring Steve, South Ockendon (0708) 851364 after 6pm.

● **SEGA** Master System, still guaranteed, with joystick, two control pads and 7 Sega games. Will sell for £185. Tel: 01 977 9216 after 5pm or I will swap for Atari 520 STFM.

● **SPECTRUM** plus 3, games, blank discs and joystick. Perfect condition £150. Phone Oxted 712881.

● **LOADS** of Spectrum 48K games for sale, Space Harrier, Dragon's Lair, Dandy and loads more. All very cheap or may swap for ST software. Tel: Philip (0204) 43634.

● **BBC-B**, Acorn DFS, dual 80/40DS drives, printer, PC-consult, ROM cartridge system, Teletext, Sideways RAM, MOUSE, lots of books, games and utility software, worth over £2500. Only £800. Tel: Tobias 01 482 3609, evenings.

● **ATARI** STFM for sale with £360 of software I will sell for £350. Phone Matlock (0629) 732020 ask for James. Iam usually in after 5pm.

● **AMSTRAD** 464 with modulator, DMP3000 printer, books, 27 AA magazines, software including GAC. Worth over £1000. Will sell for £410ono for quick sale. Will seperate. Tel: 0737 760779.

● **AMSTRAD** CPC 464, colour monitor, modulator, joystick, 100s games, utilities, books, cheat modes, you name it! £300ono. Phone Mike, Croydon 01 656 1686 after 6pm.

● **SPECTRUM** plus 2, over £200 worth of games including, Platoon, Starglider, joystick. Excellent condition. £145 complete. Mark Wheeler, 22 Glaston Road, Street, Somerset 0458 43694.

● **CBM64C**, 1541C disk drive, C2N data cassette recorder, joystick, over 100 games including Last Ninja, Californian Games, Driller, Platoon, Head Over Heals, Combat School. £450. Phone 062 882 4293.

● **SPECTRUM**, plus 3 still under guarantee, data recorder inc. leads, all boxed, as new over, £175 of software and joystick, 20 magazines £280. Phone 0229 54736 after 6pm.

● **AMSTRAD** CPC464, colour monitor, with boxes, speech synthesizer, dust covers, joystick, 90 originals, cassette cabinet, 30 mags, Amsoft file, 2 books, Introduction Pack, computer mat. £400ono. Phone (0243) 827063.

● **EX** Amstrad owner selling stock. Amstrad Action 4-26 with binders £15. Various programs including Emu, maxam £35. Various books £30. All prices include postage. Phone (0924) 270865 (Wakefield) 6pm to 8pm.

● **BRAND** new Spectrum Plus, interface 1, 23 microdrives, interface 007, joystick interface. 17 cartridges plus box, loads of games. Offers. Will seperate. Tel: (0204) 43634 or 491673.

● **CBM** plus 4, C2N, datacassette, joystick, lots of games, some mags. for £80ono. Aquarius computer, boxed, G.A.N. for £250ono. 2 games consoles. Tel: 0469 31039. Further info ask for Craig.

● **AMIGA**, Spectrum original software for sale. For every £3 spent you get free software. Send sae for catalogue. Mark Hunt, 59 Hood Close, West Croydon, Surrey, CR0 3SR. Penpals wanted.

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● **BBCB** 32k for sale along with tape recorder and a joystick, plus over £200 of software. Worth £600 sell for £200. Contact Steven Wells on 0379 71703.

WANTED

● **WANTED** Amstrad Adventures, tape or disc. Originals only with instructions. Please send me your list with prices required. Adventures only please. Robert Adams, 81 Uplands, Welwyn Garden City, Herts AL8 7EH.

● **SWAP** Toshiba HX22 64K, MSX built in word processor, RS232, Scant/Analogue ports etc., HX550 dotmatrix printer. All as new, boxed. For Atari STFM or CX5M computer. Phone Brian 06937 72047.

● **AMIGA** contacts wanted from around the world guaranteed reply write to Max, 170 Avenue Road, Erith, Kent DA8 3AZ. Tel: (0322) 330411 also Casio CZ230s synth, mint condition only £190ono.

● **LATTICE** C Compiler wanted for Amiga. Version 4.0. Phone Andrew on (0253) 592956 after 5pm. Or write to, Andrew Howarth, 20 Leckhampton Road, North Shore, Blackpool, Lancs FY1 2NA.

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● **ATARI** ST penpals wanted and music penpals. I'm interested in new programs, demos and music. Write to:- Jeff, P.O. Box 216, Rockhampton, Queensland, Australia 4700, All letters answered.

● **ARCHIMEDES** A310 owner seeks penpals (m/f). Interests are: music, 3D animation, Basic V, writing adventures and anything else archimedes related. Marrie Rosenbrand, Hogezandschell 11, 5161 RL Sprang-Capelle, Noord-Brabant, Netherland.

● **ST** Penpals wanted to swap tips and pokes and write about anything else. I am 15 and male. Either sex contact Richard, 113 Writtle Road, Chelmsford, Essex CM1 36P.

● **17** year old male ST user and heavy metal fan wants female penpals from all over the world 16-18. Write to Robert, 35 Main Road, Portskewett, Newport, Gwent, NP6 4SA.

● **ST** 1040 wants contacts worldwide to interested in programmes, demos etc. Call 051 228 3074 or write to Alan Hedderick, 22 Corinthian Avenue, Liverpool L13 3DP.

● **AMIGA** contacts wanted around the world. Write to Nigel, 29 Milson Grove, Hull Road, York YO1 3AQ. Interested in games and demos? Then get writing.

● **AMIGA** and C64 owner wants contacts on disk. Write to Ping C Tse, 52 Pensby Road, Thingwall, Wirral, Merseyside L61 7UQ. All letters answered.

● **LONELY** Amiga owner seeks penpals to exchange ideas, info etc. Write to Shaun Davey, 7 Mountbatten Road, Bungay, Suffolk, NR35 1PN. Please!

● **PENPALS** wanted on the Amiga, please write to Henry Fong, PO Box 395, Yarrawonga, Vic 3730, Australia. All letters replied.

● **ATARI** ST penpals wanted write to Wolfgang Van Leeuwen, 4 Batten Street, Nerang 4211, Australia.

● **ATARI** ST contacts wanted. Mike, 39 Priestly Road, Beechdale Estate, Walsall, West Midlands, WS2 7JB. Tel: 0922 29287. Write soon for instant and guaranteed reply.

● **ATARI** ST contacts wanted worldwide to swap hints tips etc. Guaranteed reply. Like all games. Write to Ian and Gary, 9 Royal Grove, St. Helens, Merseyside, England, WA11 9NL.

● **Male** seeks female penpals worldwide to talk about anything. I am 18. Please send photo if possible. If interested please contact Stewert Waters, 6 Worthington Way, Colchester, Essex, CO3 4JZ, England.

● **MSX** owner wants penpals all over the world. Solid MSX supporter, games, utilities, hardware and business gear. Write to Ross Brisbane, 50 Coolong Street, Mt Gravatt, Brisbane, Queensland 4122, Australia.

● **AMIGA** owner wants penpals worldwide to swap tips, information etc. All letters will be answered. Write to John Bezzina, 26 Tower Street, Msida, Malta.

● **DWAYNE** May, an Amgia Owner would like to meet other Amiga owners between 16-25 years old. 51 Sinclair Street, Wolstonecraft 2065, New South Wales, Australia. No Australians please.

● **ATARI** ST Amiga and C64 owner wants contacts all over the world to swap tips and ideas. Write to: PLK A023753, 2240 Heide, W. Germany. Disk only!

● **AMIGA** contacts wanted. Write to, Frank Muller, PLK 040639C, 4370 Marl, W. Germany.

● **Merlin** Club for contacts around the world. Send 50p to Merlin Contact Club, 1 Merlin Close, Hainault, Ilford, Essex IG6 3XL. State type of computer, include sae.

● **ATARI** ST user wishes to swap hints and tips with anyone interested. All letters guaranteed 100% reply – Go on, get writing. Dave, 25 Eyhurst Avenue, Elm Park, Hornchurch, Essex, RM12 4RB.

● **ATARI** ST penpals wanted. Write to Scott, 20 Penarth Walk, Hartlepool, Cleveland TS26 0TW.

● **ATARI** ST owner wants Atari penpals worldwide. Guaranteed reply. Write to Andrew McManus, 56 Downview Park West Belfast, Northern Ireland BT15 5HP.

OTHER

● **C64** gaming. Monthly 50 page Commodore 64 Software Review Magazine. Send 50p (including P&P) payable to S. Johnson, JSS, 107 Goldhurst Terrace, London NW6 3MA.

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● **AMIGA** owners on the Wirral? If you're interested in a user/software group write to SDC, 36 Sandon Crescent, Little Neston, South Wirral. Please remember full address and telephone number.

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THE BLITTER END...

Johnny Dumfries breaks all records by appearing in Blitter End without a hat on – which is a shame, 'cos his helmet's where the Code Masters sponsorship stickers go!

CAR TROUBLE

Budget barons Code Masters sponsor Johnny Dumfries, a former karting enthusiast now driving for the Silk Cut Jaguar team, so when Johnny was racing at Silverstone recently the Darling brothers threw a bash there for the computer press. ACE's man on the spot was demon skateboarder Andy Smith, a sucker for anything on four wheels. Andy, a native of Trowbridge, cadged a lift to Silverstone off local programming duo The Oliver Twins. The Olivers have clearly done very nicely off Code Masters titles like *Grand Prix Simulator* – they've just bought a flash new Japanese car, pop-up headlights and all – but that didn't stop them charging Andy for his share of the petrol. Quite right, we say: as Johnny Dumfries proved when he ran out of juice 207 laps through the 210-lap race, you really can't be too careful about fuel economy.

THE MIND BOGGLES

After a respectful break last month for our American issue, it's back to the mortifying revelations of Gryzorgate. Centre stage are Konami, creators of the xenophobic Rambo-em-up *Gryzor*. Regular readers of the Blitter End will know that Nintendo console cartridges of *Gryzor* sell in the States under the rather unsavoury name of *Contra*, but even ACE's hardened investigative journalists were shocked to find that the trend had reached Britain. *Gryzor*'s coin-op sequel has been showing up in West End arcades over the last few weeks, but all pretence of neutrality is gone – even here, the machines are called *Super Contra*. Rumours about the Sandinista government stockpiling Kryptonite are probably premature.

SUMMERTIME OOPS!

Mistake fans may have been twiddling their thumbs through the spring, but last issue certainly gave them something to chew on. Page 70's map of the *Dungeon Master* Hall of Champions was very useful, but unfortunately the key to it wasn't. Hardly a massive boob – it's easy enough to figure out what's where – but it still earns a healthy 60% on the ACE oopsometer. Another foul-up worthy of note can be found on page 21, where slight colouration problems mean that (a) Charlie Chaplin is black and white and red all over, while (b) Earthlight's 'blue planet in the background' ends up a rather lurid magenta. Heck, oceanic pollution hasn't got that bad yet, has it? ●

SATURDAY NIGHT AT THE MOVIES...

When you're queuing in the rain an hour before the doors open at your local cinema just to see the latest blockbuster and someone comes swaggering past you with a big grin on their face, it might just be **James Drew from London**. Or **Roderick Begbie from Tillicoultry** or possibly **P. Degenaar from Newry Co Down**. You see, these lucky, lucky people were the winners of the ACE/Cinemaware *Three Stooges* competition in Issue 8. They knew that Stooge A was Curly, Stooge B was Moe and Stooge C was Larry and now they each scoop 52 free cinema tickets! **Craig Peterson from Dunstable** and **Daniel Melamud** from London were the runners-up and both receive a splendid Cinemaware jacket.

Talking of winners, keep checking your ACE card number. These lucky people have already won some fabulous prizes:

J.F. Danes, Middlesbrough (No 39161 in Issue 7) wins a year's subscription to ACE. **G. Hemingway, Huddersfield** (No 30356 in Issue 7) wins £25 of software. **G. Cooper, Isle of Man** (No 35560 in Issue 7) wins £25 of software. **Liam Watson, Bradford** (No 43614 in Issue 7) wins £25 of software. **Ian Fraser, Staines** (No 45979 in Issue 7) wins £50 of software. **Graham Hay, Strachan** (No 62178 in Issue 7) wins £50 of software. **Andrew Roberts, Fareham** (No 05783 in Issue 8) wins a year's subscription to ACE. **Michael Svellov, Copenhagen** (No 31500 in Issue 8) wins £25 of software. **M.W. Slack, London** (No 78632 in Issue 8) wins £25 of software. **M.J.Dutton, London** (No 27457 in Issue 8) wins £25 of software. **Lyndon Holman, Exeter** (No 74285 in Issue 8) wins a year's subscription to ACE. **Michael Scott, London** (No 78767 in Issue 9) wins a year's subscription to ACE.

Keep checking your ACE card – we've still got loads of that juicy hardware to give away!

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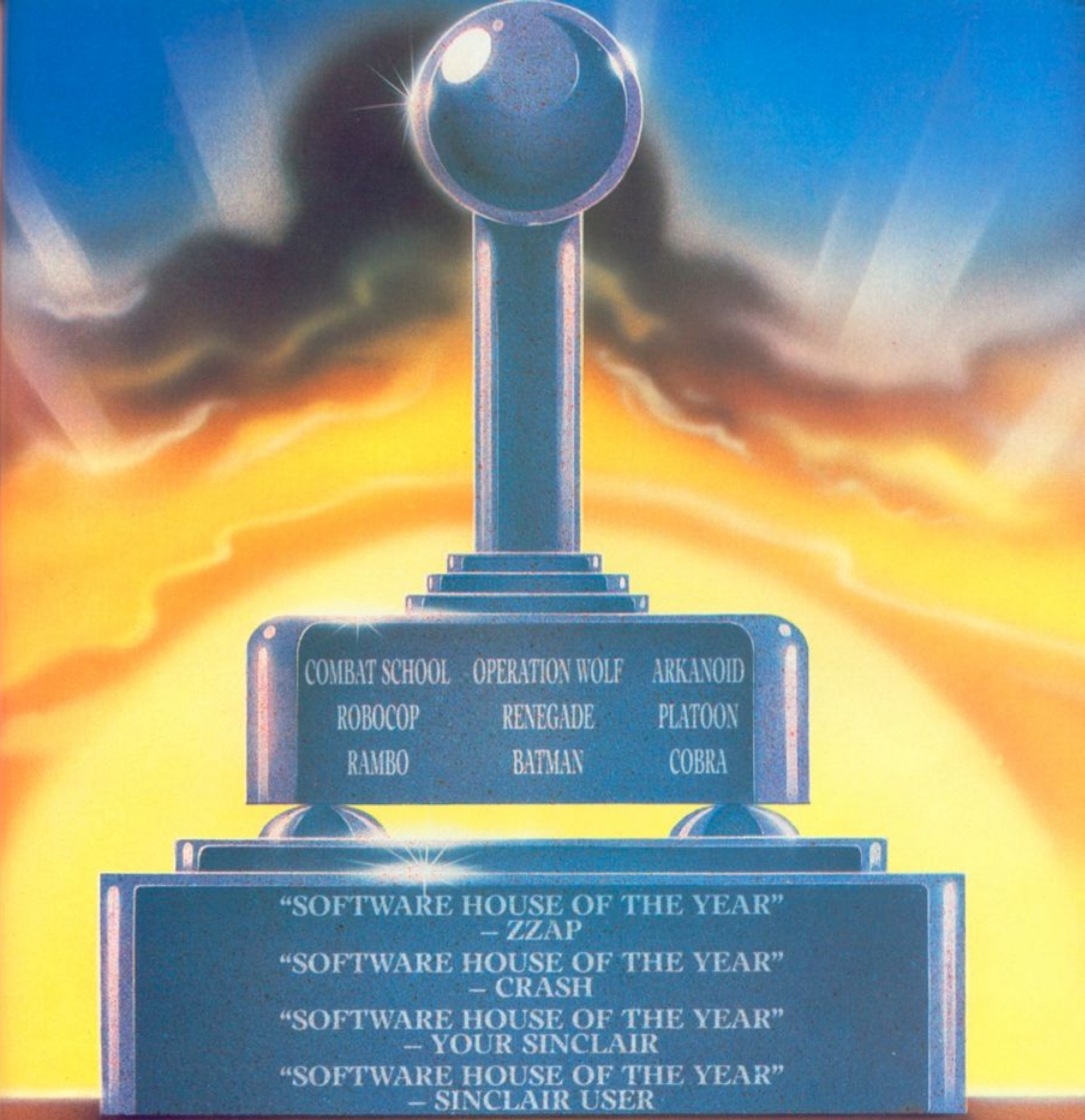
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